

The Green Economy, Poverty and the Global Inequality

Working Paper

for the International Workshop
*Biocivilization for the Sustainability
of Life and the Planet*

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Which economy?

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Introduction

Concurrent crises are impacting upon humanity in the second decade of the twenty-first century of the Common Era (CE). The origin of these crises may be traced to the global expansion of capitalist relations of production and contradictions arising from its international division of labour. The global community of countries have as a consequence of the capitalist crisis's been forced into policy frameworks that have sought economic stimulation, fiscal austerity and environmental sustainability as public outcomes. Notwithstanding valiant responses such as the adoption by Ecuador and Bolivia in their enactment of legislation that grants justiciable rights to nature¹, the threat of an impending environmental catastrophe through climate change and global warming looms large on the horizon as the simultaneous expansion of inequalities envelopes the planet.

The contemporary crisis's of global capitalism are however only the most acute in the last eighty years. Whilst originating in the most mature capitalist economies, the triad of the USA, Europe and Japan; its toxic debentures and derivatives have infected the world as a whole. The consequent global economic disaster is experienced simultaneously as heroic people-led revolts arise against the reproduction of archaic autocratic state formations, imperialist occupation and further attacks on welfare systems. Concurrently, our planet is in the midst of the sixth mass extinction period, the Anthropocene. This recently framed geological epoch acknowledges the devastation results from the impact human activities on the planet's ecosystems and biodiversity. These contextual aspects and the contemporary conjuncture frame this draft Position Paper for the International Workshop on Bio-civilization for the Sustainability of Life and the Planet.

This draft Position Paper is composed of five sections. The first section introduces the contemporary crises of global capitalism confronting humanity and the planet. This section explores the evolution of human development until the present milieu. This section is concerned with both explicating a trajectory of social, economic and political change; and its transformatory effects on the establishment of civil society. Most of this history is concerned with cooperation amongst humanity as a species until the advent of capitalism which is fundamentally locked into the dialectic of class struggle and inter-enterprise competition.

¹ These laws were respectively adopted by the people of Ecuador in their 2008 Constitution in the form an article entitled: the "Rights for Nature," and as the "Law of the Rights of Mother Earth" by Bolivia's Plurinational Legislative Assembly in December 2010. The latter establishes seven new rights for nature, including the right to: life including the integrity of ecosystems and natural processes, and the necessary conditions for regeneration; biodiversity which should be preserved without genetic modification; water in sufficient quantity and quality to sustain life, protected from pollution; clean air; equilibrium through "maintaining or restoring the interrelation, interdependence, complementarity, and functionality" of all parts of the Earth; restoration of ecosystems damaged by human activity; and live free of pollution including toxic and radioactive waste.

The second section discusses the planetary impact of global capitalism. It is specifically argued that crisis prone capitalism is incapable of meeting the basic needs of food, shelter, health, and education in a sustainable manner. The advance of towards the contemporary global capitalism has increased the marginalisation of civil society as the format of capitalism increasingly demands organised state violence and welfare to maintain social order and ensure continued exploitation and expropriation. Civil society ultimately comprises the citizens of the world and, as such, reflects the stratifications and segmentations' perpetrated and reproduced by global capitalism. Responding to this capricious expansion are the escalating voices of the poor in particular, the working class in general and increasingly elements of the precarious middle-strata. Protests, organisation and direct action are some of the means through which the people of the planet engage with global capitalism.

The third section describes some of the emergent alternatives to contemporary global capitalism. This section is particularly concerned with proposals for a 'green economy' and associated forms of solidarity and cooperation that hold the prospects for a post-capitalist future. Whilst the vision of a post-capitalist future may seem premature in the face of the hegemony of the contemporary neo-liberal model of globalisation, the fate of the planet demands that alternatives to destruction be considered. This section therefore recognises that the spread and reach of the world's current problems demands the adoption of an internationalist perspective guided by principles of inclusivity and anti-sectarianism.

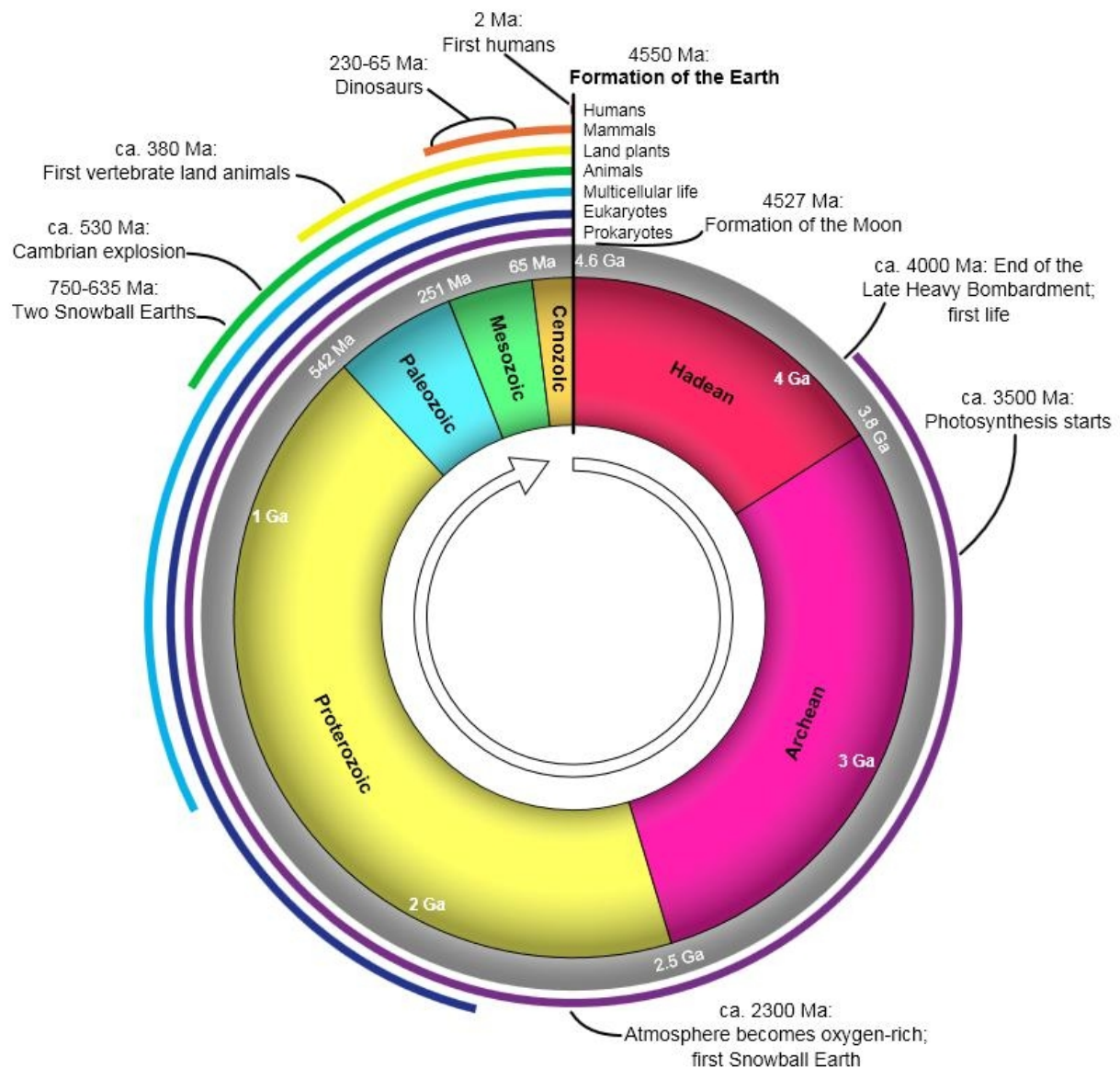
The fourth section is devoted to establishing the critical tasks of building a post-capitalist future. It is argued that building upon solidarity and cooperation is only possible through meaningful engagement, participation and dialogue within, amongst and across civil society. While stressing the need for dialogue, this section also seeks to discuss the aims of this process, the values and principles that should guide the process and how maximum harmony would be constructed through the process of engagement.

The concluding fifth section elaborates on the need for unity and struggle in pursuing an agenda of building a post-capitalist future. It focuses on some key areas for building global solidarity, international cooperation and sustainable development as crucial to enabling a transition away from the trajectory of capital accumulation towards a just, equitable and sustainable paradigm of development for all and the planet.

Human and Social Development: An Evolutionary Process punctuated by Revolutionary Transformations

The spectacular rise of the humanity as the hegemonic species on the planet was achieved through evolutionary adaptation, intra-special cooperation and inter-special competition. Competition amongst people in the form of rivalry established the basis for the production of knowledge which has advanced human progress against all others. The détournement under capitalism of competition as survival of the fittest in now poses grave dangers for all life on earth. Earth currently hosts nearly seven billion people organised within the confines of 203 geographic political units. Of these, 193 are internationally recognised by other countries as sovereign states in so far as they possess a permanent population, a defined territory, a government and the capacity to enter into relations with the other states. A further 10 territories however lack the unanimous legitimacy accorded by the United Nations including Palestine and the Western Sahara [Sahrawi Democratic Republic]. The current social, political and economic characteristics of humanity are the result of millennia of evolutionary development punctuated by revolutionary transitions which have accelerated transformation.

The human species is currently hegemonic relative to the totality of the planet's inhabitants which includes numerous other fauna, flora and other elements. Together these constitute ecological systems that allows for the evolution of life as we know it. The complex interaction over long time periods between matter and life has generated immense systemic variations. Scientists have suggested that Earth's history began less than five billion years ago. Between then and about two billion years ago, the structure of the planet, its size and cosmic coordinates were established. The time between the planet's origins and approximately 542 million years ago comprised nearly 90% of its history. In this time, the oceans, atmosphere, and continents formed. Bacteria also emerged; Oxygen levels built-up; and multi-celled organisms began to evolve. The following graphic describes the longer timeframe within which one can understand where we are today.



Thus, while the Earth formed some 4.5 billion years ago, our early ancestors only appear in the fossil records of paleo-anthropology approximately 7 million years ago. The genus *Homo* appears only about 2.5 million years ago as defined by increased brain-sizes and tool utilisation as distinctive characteristics of our common past. Skeletons similar to our current form appear in the fossil record approximately 190,000 - 150,000 years ago and are recognised as *Homo sapiens sapiens*. The human species forms part of nature, and while it does represent, in some ways, an evolutionary advance, it remains capable of behaving in ways that appear to be separate from and even opposed to its self interests. Humans are the products of biological evolution shaped by geophysical factors just as in the case of all other species. In a broad anthropological sense, human culture has afforded

the species the opportunity to transcend the limitations of its biological makeup². It is estimated that the total population of the human species around 100, 000 BCE was only approximately 20, 000 individuals.

Evidence also exists for dating the spread of modern humans originating in Africa to other regions of the world beginning at about 60,000 years ago and continuing as little bands until approximately 12, 000 years ago when the southern point of South America was reached. Human mobility impacted on all the territories inhabited by it by the time the extensive ice sheets that covered large parts of the North American and Eurasian continents about 20,000 years ago³. Our current interglacial period, characterised by warmer global average temperatures is dated at about 10, 000 years ago and the end of the last great Ice Age provides a major marker in the evolution of our species.

Climate changes and a rapid acceleration in the rate of innovation saw the domestication of plants and animals spread rapidly amongst the human species. As has been argued by Friedrich Engels (1876) and Vere Gordon Childe (1936) amongst others, human evolution separated from being but a product of natural selection through the improved learning and communicating capabilities that allowed humanity to generate technological innovations and transmit such ideas across generations. It is generally accepted that humans today can no longer exist purely in nature without tools, equipment and technique.

The diffusion of technology allowed for more settled populations to become established and changed the social life from subsistence towards surpluses and accumulation. Accompanying this material transformation was the emergence in the division of labour with increasing levels of specialisation and sophistication. It is estimated that cultural differentiation through abstract reasoning dates back to approximately 9, 600 BCE and coincides both with the generation of surplus production and with preoccupations concerning authority, ancestry and inheritances. The emergence of social hierarchies and political power was essentially shaped through harnessing violence as a mechanism for the legitimating possession and dispossession. Foraging was replaced by farming and the technological advances over time provided the platform for social, economic and political adaptation.

More recently - and especially in the last few millennia, the evolution and expansion of the human species has wrought considerable changes to the environment. In their quest for hegemony over the planet, socially dominant classes and groups of society have wreaked havoc in their single-minded pursuit of profits ignoring the welfare of the planet. Whilst

2 Pinnacle Point, on the South African coast, shows evidence of habitation from about 160, 000 years ago, whilst Blombos Cave, also on the South African coast, has provided evidence of an ochre stick with geometric patterns and is considered the oldest cultural artefact in human history (a work of art in itself, though simultaneously a tool for creating other artwork).

3 Last Glacial Maximum.

earlier forms of production may have resulted in human beings erring through naivety and ignorance, the rapid accumulation of knowledge and its universal availability no longer affords any justification for acting in a manner that causes damage.

Although advances in science and technology result from the collective inquisitiveness of humanity, the benefits derived are inequitably distributed to all human beings. As a socially evolved subsystem, knowledge is also an expression of the relations of power in society produced by the political economy. The effect of these relations is that global and local inequality and oppressive systems to maintain the authority of the few over the majority remains an abiding characteristic of all hitherto existing political and social systems.

During the preceding three millennia, and most concentrated in the last five decades, environmental degradation, atmospheric emissions and water pollution has accumulated and the planet is now witness to mass extinction of biodiversity, global warming and climate change⁴. Exacerbating uncertainty is the recognition that the world's weather patterns have been radically altered making abrupt climate change unpredictable though inevitable. This situation is compounded by the continued extraction of non-renewable resources and the dominance of unsustainable consumption patterns. Together these factors conspire towards defining our current epoch as an Anthropocene. Whilst the exact date of this is unclear there is much consensus that it originates in the Industrial Revolution of the late 18th century CE and the establishment of the current capitalist mode of production.

Human society has largely evolved through phases which are not linear. Rather, human society is the collective results of various changes including a long period of gestation as proto-humans, hunters, early agriculturalists, advanced agriculturalists, industrialisation to the current phase which is characterized as a technological society. The materialist conception of history has suggested a sequencing of successive transitions through Palaeolithic, Neolithic, Urban and Industrial stages of human cultural and historical development punctuated by at least three Revolutions.

A Neolithic Revolution transformed hunter-gatherer cultures into settled agriculture. An Urban Revolution transformed Neolithic agriculture which was generally characterised as small, family-based, non-literate agricultural villages into becoming more complex, hierarchical systems of manufacturing and trade. This helped establish human settlements that became large, socially complex, urban societies. An Industrial Revolution massively expanded productive capabilities, increased outputs of commodities and expanded trade on an international scale. All three of these Revolutions were rooted in the material base of

4 "Climate change" means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods. (Article 1(2) UN Framework Convention on Climate Change).

the societies the process would eventually transform. In all instances, the new regimes arose from the development of the forces of production embedded with physical and technological resources.

The ascendancy of capitalism is premised on the separation between labour and capital. It is a recent development in the longer time-line of human evolution. Its deployment and expansion into global relations has revolutionised human life on this planet. Marx (1845) recognised civil society⁵ as emerging in the eighteenth century, when property and other social relationships extricated themselves from the medieval feudal society. Civil society as such, can be seen to have only developed with the rise of capitalism. It is therefore consistent with the forms of social organisation evolving out of a capitalist system of production, distribution and exchange. This emerging social category gave rise moreover to the ideological system and the multiplicity of superstructures and forms which characterise capitalism today. Civil society is sometimes used to refer to the emergence of a petty bourgeoisie independent from the State, sometimes to strengthening of the “rule of law”, and sometimes to the development of voluntary association independently of commercial transactions. In sum, civil society may be characterised by the existence of “free” labour and a commodity market, a system of law enforcement and voluntary associations under capitalism.

The requirements of reproducing capitalism now shape and influence the direction of human development. According to Immanuel Wallenstein (2011), the driving underlying objective of capitalists in a capitalist system is the endless accumulation of capital, wherever and however this accumulation may be achieved. Since such accumulation requires the appropriation of surplus value, this drive precipitates the class struggle.

The first stage of industrial capitalism is often caricatured as a period of liberal (*laissez-faire*) competition. The establishment of the capitalist mode of production proceeded on the brutal separation of people from property. The ensuing relations of production between owners of capital and those with only their labour to sell matured over a long period until the end of the 19th century CE. For capitalist production, both the means of production and wage-labour had to be initially purchased. According to Karl Marx (1867), the capitalist mode of production was essentially the process of commodity production whose sole purpose was the accumulation of surplus value. The basis of Capitalism can be described as process of exploiting labour power with the object of accumulating surplus value for the continued reproduction of capital.

David Harvey (1982) recognised that in the circuit of capital described above, the suppliers of the means of production and labour would ultimately also have to be the potential customers demanding the product. With its combined value having to exceed itself,

5 Bürgerliche Gesellschaft

additional funds needed to be created. As a closed system, the same firm would need to generate the additional value which could then only be realised in the future. It is against this difference between the full cash value of today's product and commodity values that are yet to be produced that the credit system was established and 'fictitious capital' was created. The latter category represented money brought into circulation as capital without any material basis in commodities or productive activity. It is upon this basis that the banking system expanded and eventually would come to occupy such a significant role in contemporary society.

Scholars such as Hilferding described the transformation of competitive and pluralistic liberal capitalism into monopolistic 'finance capital' in 1910. The unification of industrial, mercantile and banking interests had defused the earlier liberal capitalist demands for the reduction of the economic role of a mercantilist state and finance capital rather sought a centralized and privilege-dispensing state. According to Hilferding, this changed the demands of capital and of the bourgeoisie from when its initial constitutional demands affected all citizens alike towards now seeking, under the direction of a strengthening Finance Sector, state intervention on behalf of the wealth-owning classes: capitalists, rather than the nobility of the Feudal and earlier modes of production.

This second stage of the capitalist mode of production has variously been identified as a period of monopoly capitalism with Lenin defining the period as the highest stage of capitalism: imperialism in 1916. This stage took root from the beginning of the 20th century and extended well until the early 1970s. Whilst the basic thrust of this stage was expanding capitalist relations of production across the globe, the period also witnessed the unleashing of various strategies including the integration between banks and industry, the export of capital, the exacerbation of inter-imperialist conflict, a reduced life cycle for fixed capital, accelerated technological innovation, the permanent military economy, the growth of multinational corporations and the expansion of credit with resultant global indebtedness.

According to an assessment by John Bellamy Foster, Brett Clark, and Richard York (2010), the source of our ecological crisis lies in the paradox of wealth in capitalist society, which expands individual riches at the expense of public wealth, including the wealth of nature. In the process, a huge ecological rift is driven between human beings and nature, undermining the conditions of sustainable existence: a rift in the metabolic relation between humanity and nature that is irreparable within capitalist society, since integral to its very laws of motion. Fundamental changes in social relations must occur if the ecological and social problems currently confronting the planet are to be transcended. Their analysis points importantly towards moving beyond the current regime of capital which may be characterised as a form of neo-liberalism; and the necessity of advancing towards a society of sustainable human development.

To advance along such a suggested path it is however necessary to deepen our understanding of this current phase of global capitalism. Neo-liberalism represents a historical process which has systematically sought to dismantle many of the structures that limit and regulate the operation of the market, both with regard to relationships between capital and labour and with regard to relationships between different capitalist enterprises. Neoliberalism is the current hegemonic paradigm of empire and ideological system in the 21st Century. It comprises at least six main characteristics. Firstly, the liberation of enterprises from all regulatory boundaries previously established by governments acting as the state towards the objective of the total freedom of movement for capital, goods and services. Secondly, public expenditure on social services including health, education and welfare has been significantly reduced. The ideological framing of welfare as a burden on the public fiscal mechanisms has been used to justify this approach which breaches the liberal social contracts of Thomas Hobbes (1651) and John Locke (1689) amongst others.

Thirdly, neoliberalism has sought to reduce the social wage and safety net of poor. This has included further reductions in fiscal spending and includes disinvestment in the maintenance of infrastructures such as shelter, water, transport and other amenities whilst increasing the subsidisation of private enterprise interventions through tax credits, direct transfers of authority and other means which privilege the ruling classes. Fourthly, another key aspect of neoliberalism has been its focus on extensive deregulation, including dismantling environmental protection, health and safety provisions.

The fifth defining feature of neoliberalism is the selling of state-owned enterprises, goods and services to private investors. This form of privatisation has generally included development finance institutions, capital goods industries, railroads, toll highways, electricity, schools, hospitals and even fresh water. Privatisation has sought to achieve the objectives of increased efficiencies and maximum resource optimisation. The global results however indicate an increased concentration of wealth in a few hands and increases in costs to users of utilities. In some instances, privatisation as an explicit policy is pursued through corporatisation of public entities which provides the cover for private sector behaviour behind the façade of public sector authority.

The sixth main characteristic of neoliberalism is a summative feature through which the very concept of “public goods” and even the notion of community is being replaced by individual responsibility. This has the effect of shifting the blame to victims whilst increasing the alienation of the poor. The elite beneficiaries of neo-liberalism increasingly agglomerate around shared cosmopolitan values and are delinked from and opposed to the real struggles of the marginalised in various underdeveloped territories.

The ultimate consequence of the political economy of global capitalism, its neoliberal ideology and the conflation of multiple crises unleashed is a massive increase in inequality

across the wide world and within national political units. This gross effect correlates the growing intra-national and international inequalities. Dissatisfaction, unrest and insecurity are increasing together with the deployment of State Terrorism⁶ as organised violence becomes the only mechanism available to maintain the status quo and ensure its reproduction.

The contemporary world is largely shaped by global capitalism, particularly under conditions of corporate imperialism enforced through Empire and known as neo-liberalism. Environmental degradation is exacerbated intensified exploitation and oppression through mass unemployment in the formal sectors, short-term contract work, 'casualisation', increasingly meaningless and boring labour punctuated by periods of unemployment and short-time work, declining real wages, and a rapidly diminishing social wage, and from wholesale alienation bringing about escalating mental health problems and anti-social crimes.

Capitalism has created the conditions of current over-production and under-consumption through its relentless and ultimately self-destructive drive for profit. Improvements in the material living conditions of humanity have resulted from the extension of the provision of various infrastructures including water supply, housing, electricity, transport connections and a wide range of essential products and cultural activities. This is however not universalised and has increasingly become dependent on international linkages in global chains of production for their provision and maintenance. The costs with respect to these infrastructures are again being disproportionately borne by the working class and those entering the margins of the middle strata.

Whilst major reforms of this provision, such as huge cutbacks in the arms industry, the provision of free public transport and downgrading of private transport, the lowering of dependence on fossil fuels, and the ending of the media and advertising industry's promotion of a consumerist philosophies with its monumentally wasteful production of superfluous commodities are often touted as routes towards global salvation, they remain unattainable under capitalist relations of production.

6 Amnesty International defines organised violence as: arbitrary detention, unfair trial, torture, and political murder or extrajudicial execution.

The Planetary Impacts of Global Capitalism

The idea that the planet Earth is a complex natural system with multiple feedback loops has been well established in the literature. James Lovelock (1979) explicitly argued that all biological organisms and their inorganic surroundings on the planet are closely integrated to form a complex and self-regulating system, maintaining the necessary conditions for life. This concept became popularised as the “Gaia Hypothesis.” When any parts of this system are damaged or altered, they contend, the others respond by attempting to repair, or compensate for, the damage in order to restore the essential balance. Whilst the human species has indeed accumulated considerable competencies through research, science, and technology, our collective global knowledge remains uncertain and incomplete. Humanity still lacks a grand unified theory that captures the totality of the complex systemic underpinning of life on earth and in the wider cosmology.

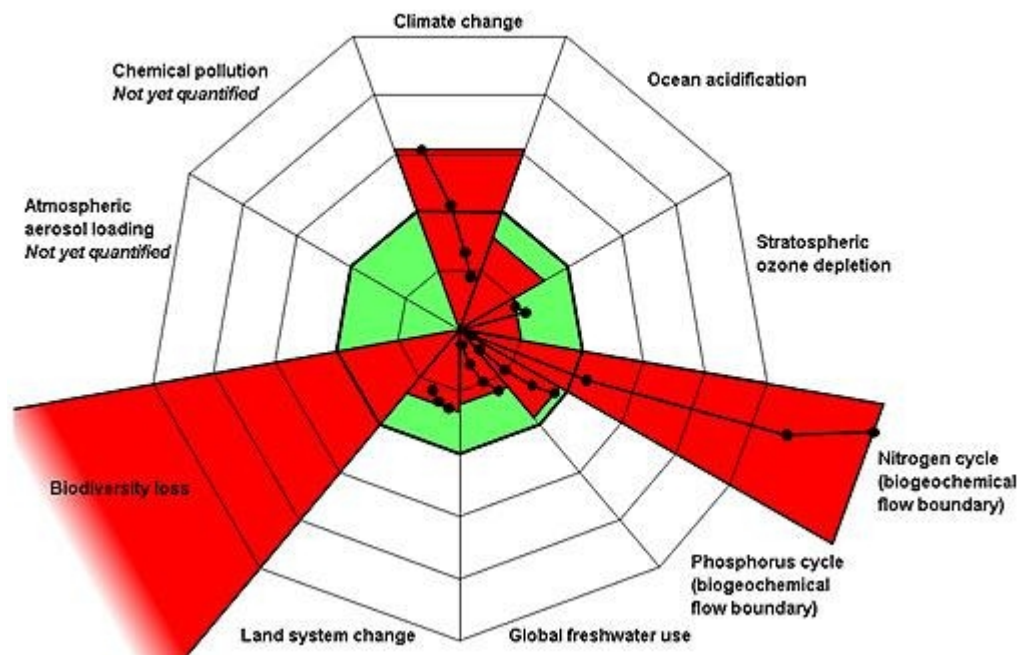
Arising from such a humble acknowledgement, the United Nations Conference on Environment and Development of 1992, held in Rio de Janeiro and also known as the Earth Summit, shaped its article 15 as a precautionary principle⁷. Whilst humanity has inordinate power to materially alter our planetary realities, this potential remains constrained by the limits of its knowledge and technological capabilities and competences. Such precariousness stands in stark contrast to the increasing brutality through which repressive state machineries of the nationalist elites impose their self-determined agenda in pursuit of narrow short-term accumulation strategies at the expense of global sustainability and in comprador relations with global capitalism.

The planet currently faces multiple tipping points that will ultimately signal the failing of some of the world’s ecosystems with life-threatening consequences for all. According to an international team of scientists examining numerous interdisciplinary studies of physical and biological systems, nine environmental processes were determined that could disrupt the planet’s ability to support human life (Stockholm Resilience Centre, 2009). These include: Stratospheric ozone layer; Biodiversity; Chemicals dispersion; Climate Change; Ocean acidification; Freshwater consumption and the global hydrological cycle; Land system change; Nitrogen and phosphorus inputs to the biosphere and oceans; Atmospheric aerosol loading.

The boundaries for these processes recognise the limits within which humankind can safely

⁷ In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

operate and are indicated by the green zone in figure 2. Seven of these processes have clear boundaries established by science whilst complying with the uncertainty principle. Three of those boundaries—for climate change, ocean acidification and stratospheric ozone depletion—represent tipping points, and the other four signify the onset of irreversible degradation. The remaining two processes comprising atmospheric aerosol pollution and global chemical pollution have no determined limits due to their recent age and lack of long datasets.



Current changes to the climate and potentially irreversible climate change implies the loss of productive land, extreme weather conditions, rising sea waters, massive dislocation of people, desertification and serious economic and social upheaval. Other resource shortages like fresh water, forests, agricultural land, and biodiversity are being severely impacted. Depletion of oil and gas reserves impacts directly on the lives of the billions of people of the world and the fragile biosphere. The current production paradigm remains locked into fossil fuel dependencies that include long distance transportation; factory production systems; as well as many other systems and commodities. This system will become increasingly difficult and constitute an important site of conflict in the face of recognising the planet as a finite system in itself. The mineral endowments of the planet developed over billions of years yet its rate of extraction has accelerated with the advance

of science and technology. The net effect is that the stocks of planetary resources are being depleted faster than nature can replenish them and without intergenerational concern.

The scientific consensus is that global warming is largely the result of increased atmospheric concentrations of carbon dioxide and other greenhouse gas emissions. The growth in emissions is caused by human activities, primarily fossil fuel combustion and changes in land use, such as agriculture and deforestation. The Intergovernmental Panel on Climate Change projects an increase of future average global surface temperature in the range of 1.1°C to 6.4°C by 2100. This warming, along with the associated changes in precipitation, drought, heat waves, and sea-level rise, will have important consequences for the ecosystems of the planet, the global political economy, governance and social relations.

According to the Finance Initiative of UNEP (2011c), the estimated annual environmental cost from global human activity in 2008 was US\$ 6.6 trillion or the equivalent of 11% of global GDP. They also calculated that the cost of environmental damage caused by the world's 3,000 largest publicly-listed companies in 2008 was approximately US\$ 2.15 trillion. Based on these startling facts, they estimate that over half of company earnings that could be at risk from environmental costs in an equity portfolio weighted according to the MSCI All Country World Index.

Bill McKibben has argued that the more carbon dioxide and other greenhouse gases dumped into the atmosphere, the more the planet's natural climatic systems and damage other vital ecological assets, including oceans, forests, and glaciers are being affected. As these are all components of the planet's integral makeup, the damage being inflicted upon them will trigger defensive feedback mechanisms such as rising temperatures, shifting rainfall patterns, and increased sea levels, among other reactions (2010). It has been reasonably established that the atmosphere surrounding Earth has an absorptive capacity of approximately 5 billion tons or gigatons (Gt) of Carbon Dioxide (CO₂). Based on this assumption, it has been suggested that to global development needs to be constrained through emissions control and based upon modelled approximations of reality.

In a recent study, Campanale and Legget argue that by 2011, the world has used over a third of its 50-year carbon budget of 886GtCO₂, leaving 565GtCO₂ (2011). Their research also calculates that the proven reserves owned by private and public companies and governments are equivalent to 2,795 GtCO₂. Fossil fuel reserves owned by the Top 100⁸ listed coal, oil, and gas companies represent total emissions of 745GtCO₂. This therefore implies that only 20% of the total reserves can be burned unabated, leaving up to 80% of assets technically unburnable. These empirical findings confirms the need for radical transformation and also the assertions from activist Bill McKibben who maintained that total

8 Listed on the London Stock Exchange.

carbon emissions from all forms of energy use had already hit 21.2Gt by 1990 (2010). McKibben has projected that emissions would rise ominously to 42.4Gt by 2035 which would represent a 100% increase in less than half a century (op cite).

In summary, whilst Humanity is still in the process of beginning to appreciate the limits of the Earth's carrying capacity, our species continues to expand both in terms of population as well as with respect to developmental needs. The system of global capitalism has enveloped the planet and is marked by a distinct pattern of combined and uneven development. The resulting inequalities, marginalisation and exclusion requires a fundamental reassessment of some of life defining aspects characterising our social, economic and political paradigms as the edge of the ecological catastrophe we have generated. Converging global living standards between the more developed with the rapidly developing parts of the world [OECD & BRICS/G20] will further strain the planetary thresholds whilst the vast majority of countries remain outside the realm of benefits. Epochal changes are required though such agitation may still be ascribed as demanding the impossible. A progressive 'green economy' may however hold a migratory pathway away from the accumulation trajectory of global capitalism.

Imagining Utopias: the Green Economy & Post-capitalist Futures

The global response to climate change has reached a critical juncture. Since the 1992 signing of the United Nations Framework Convention on Climate Change in Rio de Janeiro, the countries of the world have attempted to address climate change through large-scale multilateral treaty-making. These efforts have been altogether generated disappointing outcomes. As evidence for the quickening pace of climate change mounts, the treaty-making process has spluttered, and many are now sceptical about the prospect of an effective global response. With the twentieth anniversary of the Earth Summit approaching in 2012, the limitations of multilateralism under the fetters of global capitalism are becoming more evident.

As an alternative pathway towards global consensus on the global ecosystem, the World People's Conference on Climate Change and the Rights of Mother Earth was hosted in Cochabamba in 2009. The declaration of the meeting outlined a comprehensive listing of ten principles for recognising the 'Rights of Mother Earth' framed in the context of understanding that all life, including humanity lives exist within a dialectical and symbiotic relation with the planet. This Rights-affirming injunctions stands as a sharp contrast to the

ongoing multilateral negotiations framed by the United Nations including the Conference of the Parties towards establishing a binding Framework Convention on Climate Change (UNFCCC).

The UNFCCC has failed in its incarnation in Copenhagen in 2009, no final solutions were represented in Cancun in 2010 and all evidence suggests and equivalently dismal performance in its 17th Conference scheduled for Durban in 2011. Thus the ethical and moral principles established in Cochabamba provides the context within which we can now explore the concept of a 'green economy' and specifically discuss proposals on research, development, science, technology and innovation underpinning production, distribution, consumption, and waste management. It is only upon such a re-conceptualisation that sustainable social, economic and political development will become possible.

Multiple expressions currently co-exist and suggest an alternative path of development for the planet. These include, amongst even others, green growth, green stimulus, green technologies, green sectors, green business and green jobs. The idea of a 'green economy' generally emphasises environmental sustainability and protection while pursuing sustainable development. Martin Khor has recently argued that the 'green economy' is "an extremely complex concept and it is unlikely there can be a consensus on its meaning, use and usefulness and policy implications, in a short time" (2011). He however acknowledges that a 'green economy' "gives the impression of an economy that is environmentally-friendly, sensitive to the need to conserve natural resources, minimise pollution and emissions that damage the environment in the production process, and produces products and services the existence and consumption of which do not harm the environment" (op cite).

UNEP has proposed that a 'green economy' would generate improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities (2010). They therefore define the 'green economy' as being characterised by being low carbon, resource efficient and socially inclusive (op cite). On a practice note, UNEP has maintained that a 'green economy' also implies that "growth in income and employment is driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services" (ibid). These investments need to be catalyzed and supported by targeted public expenditure, policy reforms and regulation changes. This development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and source of public benefits, especially for poor people whose livelihoods and security depend strongly on nature.

The progressive 'green economy' must therefore be built upon the foundations of a decaying and crisis prone global capitalism. It will necessarily involve global coordination

and planning but should not reproduce the failures of centralised commandist planning. Equality and redress must also accompany the liberation of enterprises and households from the chasing of short-term 'profits' at the expense of medium and longer-term sustainability.

A further moot point requiring further discussion is the notion of freeing time towards increased leisure and voluntarism. Building international cooperation and solidarity requires an increased intercourse between the peoples of the planet, the environment and the systems of production, distribution, consumption and waste management. Early critiques of political economy from the time of the establishment of industrial capitalism until the current conjuncture have not resolved the wage-slavery and class struggles that drive accumulation trajectories. The 'green economy' requires 'green jobs' within 'green enterprises' under participative and democratic regimes of governance. Rescuing global capitalism may not afford such perspectives the capacity to develop beyond the strictures of fundamental contradictions. The reduction of the 'work-week' in absolute time and a re-engagement with the social and political holds the prospects of constructing the 'green economy' outside of the parameters framed by global capitalism.

According to Rajesh Tandon, the "technological advancements of the last two to three centuries have created a sense of instrumentality among the scientifically trained among us; this instrumental rationality drives our perpetual efforts at controlling, manipulating and redesigning our natural environment to fulfil human needs, and ambitions" (2011). Tandon argues for a fundamental recognition that "technology needs to serve the larger public good for humanity, rather than merely advancing production and consumption" (op cite). Tandon positions the challenge of sustaining the human spirit at the heart of sustainability of humanity and planet earth, and therefore warns that this can be achieved only if moral and ethical considerations underpin the future design of the economy and community (ibid).

Conclusions: A New Economy demands a new Economics: An Agenda for Pluralism and Heterodox Political Economics

'The old world is dying, and the new world struggles to be born: now is the time of monsters' - Attributed to Antonio Gramsci

Whilst precise determinations of the balance of the opposed forces at any historical juncture is usually difficult and prone to contestation, the specific objective conditions that underpin the current phase of global capitalism demand the emergence of subjective responses that seek to build global solutions, international cooperation and solidarity. Thus whilst the creation of a new unified and planned global community seems the logical survivalist response in the face of mounting environmental degradation, most advances remain premised upon building local resilience towards impending ecosystem catastrophes. Progressive organisations involved in the struggle for social justice in society and the individuals involved in these struggles have the role of uniting the independent organisations around a clear vision of a future global community, which can develop out of the conditions and the struggles of today.

This new task is commensurate with the transition from feudalism to capitalism and is therefore contingent upon the motive forces confronting the contractions of the current malaise. This concluding section suggests some of the avenues which require further exploration. It will ultimately be the result of praxis that Humanity rises above the constraints of an increasingly anachronistic mode of production. The reassertion of global development as prerequisite of national strategies may be difficult to advance under circumstances of combined and uneven development. Life however demands this lest we succumb to reproducing the avarices that have characterised the last millennium of the rapid though uneven economic expansion realised under global capitalism. What 'green economy' do we need in order to defeat poverty and the unfair global distribution of wealth?

The world of the 21st Century is the result of evolutionary social, economic and political developments and transitions sometimes accelerated by revolutionary transformations. The power of rapid and profound change has however lagged behind the more incremental adjustments that have largely come to characterise contemporary global capitalism. Many argue that the world does not even subscribe to a single hegemonic capitalism, but rather that variations co-exist under the general mode of production. This would explain how Brazil, Russia, India, China and South Africa (BRICS) all utilise distinct approaches and models of economic expansion whilst not following the tenets or prescriptions of the multilateral institutions or the OECD.

An approach which recognises the variations that constitute global capitalism also makes possible the vision of the 'green economy.' Such a perspective appreciates that the centuries of accumulated uneven and combined development has indeed shaped a massively unequal and differentiated community of political units. The process of globalisation has accelerated the integration of markets and finances. It has largely ignored the contradictory effects on human mobility and social cohesion. For a 'green economy' to transcend the current boundaries of the current epoch, it will be necessary to increase

efforts at building international cooperation and solidarity. Intra-national and regional efforts at integration should also be fostered and encouraged. Shifting the scope of attention from the current 194 political units (countries) towards biomes and ecological regions also offers humanity and the planet as better planning framework.

It will indeed require that the tyranny of capitalist competition over the arbitrary value of commodities be restrained by a global compact that is socially legitimate and politically empowered. Such an approach would need to be biased in favour of aspects of utility and environmental contingencies. Such an approach would also be able to transfer surpluses towards the critically important tasks of improving the knowledge-base of humanity and the planet in common. Building such a global knowledge commons may prove a 'quick win' as people and institutions in this sector are also those who are at the grassroots of encountering the impending catastrophe of anthropocene.

UNEP believes that a 'green economy' will be the result of two major factors. Their analysis points to the need to increase investments in the sustainability of ecosystem services upon which much of the world's poor depend, and thereby to ensure that the environment can continue to be used for the benefit of current and future generations. They also argue that strategies for economic growth on the sustainable use of natural resources and the environment must generate long-term jobs and wealth as a means towards eradicating poverty (2011). These sentiments are indeed laudable and should be supported. The caveat of evidence-based policy formulation should however be remembered. By raising this concern, we should recognise that 'trickle-down' approaches adopted post the second world war have all tended to expand rather than redress inequality, worsen poverty and increase marginalisation. The successes of the last sixty years have largely been the result of continuous struggles that have culminated in the Nordic model of welfare producing better results than other variants of capitalism.

This would suggest that ensuring the active participation of organised labour and business in the policy and strategy process is critical towards building a progressive 'green economy.' The resulting consensual agreements would also ensure that some arbitrage is entered into to moderate the excesses of current remuneration in the financial (sic: fictional) sector of the economy together with curbing the excesses of executive salary packages. Measuring the performance of directors of corporations must build upon the multiplicity of 'bottom-lines' already discussed as outcomes of the World Summit on Sustainable Development and the Johannesburg Declaration.

Internationalising research and development will help build capabilities across territories of the world. Already, excellent examples of such efforts are being realised through scientists and engineers without borders. Such progressive collaborations also advance the possibilities of developing a global planning regime with the authority and legitimacy to

control the proliferation of environmentally detrimental activities whilst incentivising positive change. Unfortunately, none of these progressive outcomes are plausible within an academic field/domain subjugated to the fundamental orthodoxy of neo-classical economics, dominated by the financial/fictional fraction and buttressed by the military might of neo-liberal ideologies. To allow us to survive, thrive and build the progressive 'green economy' we need to encourage pluralism and ensure that the heterodox occupy a central space in reshaping academia. Shaping theory from facts must drive new enquiry and contribute to a renaissance in discipline of political economy. The very future of the planet, bacteria, protozoa, chromista, plantae, fungi and animalia needs us to make the transition. For the 'green economy' to grow and transcend the avarices of global capitalism, we need a new evolutionary political economy to guide the revolutionary transformation.

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