

Mapping the Green Economics School of Economics:

Reflections on theories, role, practise, ontology and epistemology.

Abstract: (150 words only, to be written last) This paper considers the role of Green Economics in the heterodox framework, pluralism and multidisciplinary within Green Economics, long-termism and socio-environmental outcomes. In addition it provides a critique of sustainability and of neoclassical economics. It does so in three steps: 1) Time Scope of Green Economics, 2) Scientific Scope of Green Economics, 3) Global Scope of Green Economics.

Keywords: Green Economics, Sustainability, Pluralism, Heterodoxy, Multidisciplinary.

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In the wake of the current dual economic and climate crises, demand has increased for a new roadmap, term of reference, and guide to human civilization's future. Economic, social and environmental queries abound, but in an age of uncertainty, Green Economics has assumed the role of an increasingly practical discipline, comprised of new theoretical and ontological developments, but firmly established in a multidisciplinary, heterodox and holistic framework. It has emerged specifically at a time when the modern role of economics

with regard to social and environmental outcomes is being questioned (Greenhalgh, 2005; Pasinetti 2005). This paper will delineate the theoretical, ontological basis of this new discipline, examining its multidisciplinary and holistic value, as well as its role in the heterodox economics tradition. For the purpose of clarity, the structure will be organized in three themes, the “Time Scope,” “Scientific Scope,” and “Global Scope.” First, within the section “Time Scope,” the article will examine Green Economics as discipline which embraces the long-term, and considers it in light of sustainable development, which it critiques from a Green Economics standpoint as well. Second, it will address the “Scientific Scope,” which includes an analysis of Green Economics role within the heterodox economic framework, pluralism, and multidisciplinary. Third, the “Global Scope” will provide a discussion of Green Economics criticisms of neo-classical economics, discuss socio-environmental outcomes, and finally the growth debate.

This new school of economics has been called the “economics of doing” and is spreading rapidly, with immediate effects in the policy-making sphere, but perhaps even more remarkable effects within the realm of economics scholarship itself. Green Economics has set itself apart within the heterodoxy, and its success in transforming attitudes and paradigms can be attributed in part to its freedom from orthodox perspectives and values. At its core, Green Economics seeks to transform economics to provision for all people everywhere, other species, nature, the planet and its systems – seeing these as beneficiaries rather than commodities. Such an attitude is novel for an economics discipline, and it is precisely this novelty that defines Green Economics from other schools under the heterodox umbrella. This paper asserts that Green Economics is now an established economics discipline, within the broader heterodox tradition, supported by a clear and relevant methodology, holism, and multidisciplinary. The global community has responded to the arrival of this school of economics with policy action. The demand for Green Economics can

be immediately attributed to its theoretical and methodological frameworks, which include an aptness to realign economics with the goals of social and environmental sustainability.

The past three years have witnessed the coming-of-age of Green Economics as a new school of economics for a new time. This school positions economics within a very long term, holistic context, taking into account the entirety of the planet and its inhabitants, species, and dependents within nature. Recognizing economics' place within nature rather than outside and above it (Kennet, Heinemann, 2006), it incorporates and celebrates "difference," diversity, equity and inclusiveness within its concepts of society and community. Green Economics designates all economic processes and systems as part of and within the limits of nature, working to cooperate and benefit rather than to conquer or steward. It redefines economics according to its Xenophon's original definition: *oikonomia*, management for the provision of needs (Kennet, Heinemann, 2006). Thus, provisioning for the needs of mutual survivability and long-term planetary sustainability encompasses nature and all of humanity as beneficiaries. Green Economics' innovations include its context, scope, and philosophy of managing economics for nature as usual, rather than managing the environment for business as usual.

Green Economics has established itself outside of the domain of the visionary and theoretical, into something tangible, practical, and in high demand. Today, the ideas of Green Economics grace newspapers and board-meetings, academic literature and multilateral political negotiations. United Nations Secretary General Ban Ki Moon stated December 2008 that we are in an "age of green economics" (Moon, 2008). Further, universities around the world anxiously seek to open Green Economics masters programmes and trainings to meet the growing demand in academia. The requests for Green Economics literature increase daily as does the staunch support of intellectuals at universities and think-tanks around the world. Today, the discipline has truly created a firm foundation for itself within the world of policy-

making as well as academia. The speed with which it is spreading is remarkable, and its proven ability to shed light on the current paradigm's environmental and social outcomes has contributed to its success.

TIME SCOPE:

Perhaps the most revolutionary aspect of Green Economics, when examined from within the heterodox umbrella, is its willingness to consider the long-term. Conventional economics, including Classical, Neoclassical, Keynesian, Marxist, and Neo-Keynesian, continues this myopic interaction with the world, insisting on short term horizons rather than the long-term reality. The orthodoxy thus focuses on the present and "discounts the future", and therefore choosing to ignore the future. As such, this narrow-minded worldview as seen in the mainstream economics can threaten the survival of our species over the long term.

In this sense, Green Economics differs. It does not discount the long term future, but rather it embraces it, requiring the equal treatment of both the present and the future (Kennet, M. 2009). It is within this context that the Dr. Gro Harlem Brundtland, a woman and former Prime Minister of Norway, led the commission whose report included those often-echoed words, "satisfying the needs of the present without depriving the future from satisfying its own needs" (Brundtland Report, 1987) This long-termism was crucial to the success of the 1987 Brundtland report and the concept of sustainability that followed. Dr. Graciela Chichilnisky, a woman from the global south and collaborator on the Brundtland Report, developed the formal theory of sustainable development on the basis of two axioms that require "equal treatment of the present and the future." These axioms require "no - dictatorship of the present and no-dictatorship of the future" – insisting that neither the economic development of the present nor the future should be dictatorial. This has been further developed in "What is Sustainable Development," in *Land Economics* (Chichilnisky, 1997), more recently in "Avoiding Extinction: Equal treatment of the Present and the Future"

in *e-Economics Journal* (Chichilnisky, 2009), and in "Avoiding Extinction: the Future of Economics" *International Journal of Green Economics* (Chichilnisky, 2009).¹ Finally, this view is not a new one. Already in 1927, Ramsey wrote that "discounting the future is ethically unacceptable and stems from a failure of the imagination." (Ramsey, 1928) Nearly a century later, economics is beginning to take this view seriously.

The discipline provides a unique response to sustainable development and pluralism as well as to the growth debate, and offers a pathway forward which includes a variety of elements from lifestyle change, outcome change, overall systemic change in economics theory, epistemology and practise. The concept of Sustainable Development is originally based on the concept of Basic Needs, which received a vote by 150 nations at the 1992 UN Earth Summit in Rio de Janeiro. It is considered the cornerstone of efforts to redefine economic progress in a way that is harmonious with nature. Sustainable Development is based on the concept of Basic Needs (as discussed in detail in *Sustainability, Dynamics and Uncertainty*, and *Valuing the Future*. Dr. Chichilnisky, whose involvement in this area extends to the development of the formal concept of Sustainable Development as well, points to the differences between neoclassical economics and Green Economics in her article, "What is Sustainable Development" in *Land Economics* (Chichilnisky, 1997), and "An Axiomatic Approach to Sustainable Development" in *Social Choice and Welfare* (Chichilnisky, 1997).

Despite the popularity of sustainable development in Environmental Economics circles, many Green Economists mistrust the integration of corporate interests into the umbrella discipline. In concordance with Gramsci (1932-4), corporations are seen as undemocratic, unelected, uniform, lacking in transparency and being the fundamental causes of the environmental and social crisis. In privatising natural assets, corporations behave as unbridled, uncontrolled, and unaccountable, representing the full destructive force of neo-liberal economics. Indeed, Milton Friedman (in Bakan 2004, pp.35) himself argues that the

socially responsible corporation would be “immoral.” Green Economics questions how the corporation’s short-term interest involves implementing equity and environmental justice through this managerial “environmentalist” approach.

Dobson (2005) and Springett (2005) criticize sustainable development’s short-term techno-fixes which remain subject to the neo-classical paradigm, while simultaneously hijacking environmentalism and the language of “sustainability” (Welford, 1993). But as in any critique, sustainable development is complex and cannot be definitively labelled. At one level and one end of the spectrum, the paradigm embodies corporate aims to capitalize on environmental and social justice, or “green-washing,” noted in its proximity to Corporate Social Responsibility and Stakeholder Theory. Alternatively, on the opposite end of the spectrum of its advocates, sustainable development is sincerely embraced by veritably green and progress-minded organizations, such as ICLEI and the Sustainable Cities Movement. Without a doubt, sustainable development has had a tremendous effect on the development of Environmental Economics as a discipline. Still, its ambiguous aims and unclear scope have led to a false dawn of environmental and social solutions as it fails to reform the current paradigm and instead reinforces it (Gale de Oliveira, Kennet, 2009).

Another Green Economics critique of sustainable development is that the Brundtland Commission’s work on sustainable development helped to establish to the growth perspective’s predominance within Environmental Economics. There are several problems with this. First, the growth perspective assumes the potential of sustainable growth to secure environmental justice through the eradication of poverty. Second, this view states that consumption is natural to human beings, who will always require and desire more products. High mass-consumption theories have resulted in the current downturn and economic collapse as commodities, debt and resources are exhausted. The environmental and social reality of our world demands the protection of both ecological and human resources, but in order to change this behaviour, global society must be offered alternatives – alternatives

which Environmental Economics and sustainable development in particular have been unable to deliver (Gale de Oliveira, Kennet, 2009).

Again, sustainable development was defined by Brundtland (1987) as meeting “the needs of the present without sacrificing the ability of the future to meet its standards.” The approach argues for a more enlightened globalisation to reach these standards and to resolve environmental degradation. Acknowledging that many nation states are weaker than global corporations, sustainable development argues in favour of benevolent corporations being the agents of global problem solving. Stakeholder theory, (Freeman 1994), (Jones et al. 2002), Corporate Social Responsibility (McIntosh et al. 2003; Hopkins 1999) its instrumental methodology are designed to provide significant competitive advantage for the firm when a subset of ethical principles (trust, trustworthiness and cooperation) are operationalised.(Jones (1995) in Andriof and Warnock (2002).

These theoretical perspectives have influenced the theoretical perspective of important German and French Greens who are interested in the concept of “other “globalisation and in exploring the ideas that the implicit goals of economic theory and policy and action might be efficiency, value, human well being, the ‘good society,’ human values, and questioning the role of consumption as a proxy for utility. (Akerman et al.1997). Elkington (1997), Zadek (2001), Wheeler and Silaanpa (1997) and Welford (1993) have done influential and successful work in getting such approaches accepted in recalcitrant companies.

In contrast, many Green Economists regard corporations as agents of hegemony, Gramsci (1932-4) being undemocratic, unelected, uniform, lacking in transparency and being the fundamental causes of the problem. In privatising natural assets, corporations are represented as the unbridled, uncontrolled and unaccountable full destructive force of neo-liberal economics gone mad, “pathological” as described by Bakan (2004) or by Korten(1997) in “Corporations Ruling the World”, or as the “Beast “ (Dicken 1986). Even

Milton Friedman (in Bakan 2004, pp.35) argues that the corporation would be “immoral” to provide social responsibility to society. Green Economics seriously questions how it can be in a corporation’s short term interest to implement equity and environmental justice through the managerial “environmentalist” approach of sustainable development.

Sustainable development practices often get no further than the marketing/public relations department and fail to permeate other profit centres of a business, or to address economic inequalities or major social or environmental impacts. Sustainable development is regarded by Green Economists as an oxymoron, often in reality counteracting existing, local, community, economic patterns (Gale de Oliveira, Kennet, 2009). Greens instead seek to reverse the trends of neo-colonialism and large corporate destruction of local assets and replacing them with new subsistence, local self determination and community control (Norberge–Hodge 1991; Mies, Shiva 1993). Gigantism, monopolism and oligopoly are contrary to the Green Economics arguments for “small, appropriate and diverse” developed by Schumacher (1973). They also advise against huge, unelected, non transparent, disembodied, neoliberal, foreign direct investment monoliths in the form of corporations which assume the role of the state or act as moral arbiters of social and environmental justice or distributors of scarce resources, whilst engaged in their “pathological” pursuit of power (Balkan 2004).

As Green Economics and archaeology remind us, “civilisation” and mainstream economics are post-ice age phenomena (Kennet, 2006). Climate instability is predicted to create unprecedented hostile conditions to society as we have constructed it and the very survival of our society or our species starts to become uncertain. The orthodoxy, however, tends to limit its focus to short term concerns. Green Economics, with its precautionary principle, works to prevent foreseeable, adverse effects on people and nature, and factors in the widest possible range of costs (regardless of the origin). Green Economics is able to do this also because, as demonstrated, it is inherently more aligned with the natural sciences and

many of its practitioners are trained in natural sciences and archaeology as well as economics. As a consequence of adopting a very long-term view of events, intergenerational equity and the rights of future generations are integral. Not surprisingly, Green Economics strongly advocates the need for each generation to leave behind an adequate bundle of resources and a habitable planet. Orthodox economics is still too obsessed with concerns of price, profit, economic growth and the perspective of the owners of production versus the workers as “other “ and therefore entirely fails to grasp this new reality (Gale de Oliveira, Kennet, 2009)

Green Economics methodology also brings new perspectives to conventional economics tools, in terms of both time and space. This new context enables it to reveal, disentangle, and unravel the power relationships and vested interests in the new global market place. The logic of Green Economics advocates local production for local needs, and reusing, reducing, repairing and possibly recycling rather than global expansion of corporations. Thus wisdom and holism are re-introduced into economic problem solving. It also re- incorporates political economy and the moral and transformational aspects of the economics of Adam Smith (1776), while offering new solutions to “managing the commons”, which has been often restricted to game theoretical models (von Neumann, Morgenstern), and exercises based on the prisoner’s dilemma or voting issues (Arrow 1951).

In addition, attitudes to nature are completely revised. According to Goldsmith (2005) economics needs to keep within nature’s carrying capacity and at the moment many of its systems are being so overloaded with the impacts of human economic activity that they cannot continue. It is time to “Rewrite Economics” (Goldsmith 2005) for the benefit of humans and the natural world and accepts the boundaries imposed by the earth. This new rationality and wisdom leads to an economics of increasing abundance as produced in nature, rather than an economics of scarcity.

SCIENTIFIC SCOPE

Uniquely heterodox, Green Economics encompasses reality as a whole, rather than compartmentalizing and engaging only a narrow slice of it as conventional economics does. Green Economics actively seeks the input of multiple fields, and in so doing is uniquely pluralist as well. Without this pluralism, in fact, Green Economics could not begin to fulfil its core aims of provisioning for all people everywhere, other species, the biosphere, planet, and its systems. For this reason, it must engage biology, climate sciences, psychology, physical sciences - in other words, the entirety of the real world. Besides being inherently pluralist, Green Economics is interdisciplinary, cross-disciplinary, and multi-disciplinary. It is not restricted to one discipline only, and proactively rejects any narrow, anthropocentric view of social sciences. Thus, it includes the entire web of species that makes life on earth - and champions theories of holism, for example Gaia Theory and interconnectivity. It cooperates rather than dominates, and sees the value and actual dependence of economics to nature in every form.

First, the definition of heterodoxy is analysed, as is the continuing debate over the range which heterodox economics covers. Within the heterodoxy, the issue of thematic unity has been a struggle. For the purposes of this paper, heterodox economics will be described as any one of a very broad series of economic paradigms, disciplines and schools which question the predominant, generic orthodox framework, and, although hugely varied from one another, are united by a willingness to reconsider neo-classical economics. For example, in 2006, Tony Lawson wrote for the *Cambridge Journal of Economics*, “Amongst the very few that have questioned the nature of heterodox economics it is recognised that heterodoxy as an umbrella term to cover the coming together of, sometimes long-standing, *separate* heterodox projects or traditions. The latter include post Keynesianism, (old) institutionalism, feminist, social, Marxian and Austrian economics, among others” (Lawson, 2006)

A key thinker and theorist of heterodox economics is Andrew Mearman, of the Association for Heterodox Economics, whose work has sought to create a template for understanding and theorising heterodox schools of economics. In his recent article, *Post Keynesian Economics and the Environment: Waking Up and Smelling the Coffee Burning?* In the *International Journal of Green Economics* (2009), Mearman argues that Post Keynesians (the Cambridge School, Joan Robinson, Michael Kalecki, Piero Sraffa) were: "engaged in a struggle to wrestle control of economics from orthodox theorists, by developing a critique of neoclassical economics and by constructing their own theoretical positions on key issues such as unemployment." (2) In other words, these Post-Keynesians were to finally adopt the same framework for discourse used by the orthodoxy. A Green Economics critique of this, however, points out that they also were to deny the tenets of orthodox economists, a framework that is myopic in time, as discussed earlier, and narrowly restricted to "the pressing issues of the day, such as unemployment and distribution" (3) In particular Post-Keynesians ignored other disciplines such as biology, other species, and long-term horizons, as well as the specific demands of poor people in developing nations who live in subsistence conditions, were also ignored.

In order to better understand Green Economics place within heterodoxy and pluralism, it is necessary to consider the work done by leading theorists in this field. According to Ioana Negru, of the University of East Anglia, pluralism is surrounded by contention. Questions abound as to its relevance for economics, its nature and place within the orthodoxy and heterodoxy divide. Green Economics offers a uniquely pluralist approach that is 'particularly fitting as a tool to solve such pressing current global issues as global climate instability.' (Kennet, 2006) This is because Green Economics integrates both ecology and economics to consider modern problems such as the climate change crisis and endemic poverty. Further, according to Dobson (2000 in Kennet 2006), Green Economics assesses reality differently, considering the perspective of those receiving acts of justice and

processes, 'rather than the measurement of the actions and actors from a corporation which aims to choose to provide or distribute justice, distribute economic resources or responsibility as provided for in such mainstream economics and business literature examples as stakeholder theory' (Freeman 1984 in Kennet 2006). Thus, the nature of Green Economics is inherently pluralist, gaining insight and utilising knowledge from other disciplines.

The work of Ali Douai is also highly relevant to understanding where Green Economics fits within the heterodox framework. Douai argues on a break from the mainstream epistemology (Ozkaynak et al, 2004) and in particular the importance of adding two broad areas of research to economics "(1) the economy - environment relationship in a socio historical perspective, and (2) the crossroads between environment and social sustainability". His work is therefore focused on the social sciences, although it encourages different backgrounds and the linkages between ecological and economic systems. However it does not develop the larger picture in terms of long term issues, nor in terms of focusing on 80% of humankind that lives in developing nations. It ignores their specific concerns and the specific problems of women and children - the overwhelming majority of the planet's population.

A practical discipline, Green Economics is both policy-oriented while at the same time draws from theoretical and ontological developments within a holistic and multidisciplinary framework, firmly established within a broad heterodoxy. By combining economics with knowledge from the natural sciences, Green Economics can incorporate a much wider, more practical, multidisciplinary range of knowledge than other schools of economics. For this reason, it also provides a significant impetus to the complete reform and modernisation of standard economic conventions and ideas, including long-term perspective. Green Economics acknowledges the full range of human history and pre-history as well as earth history, while strictly adhering to objectivity, sound qualitative and quantitative analysis and a consideration of the widest possible range of values, including survivability,

sustainability, and community-awareness. Finally, it insists on a comprehensive appreciation of social and environmental justice between people, as well as with non-human species, the planet and the biosphere.

Green Economics is thoroughly holistic, meaning that it extends conventional economics to encompass an integrated view of reality instead of fragmenting it. Holism has a central place in this new discipline, as it addresses and links traditions that are foreign to each other, yet has no desire to be centralised, over-organised or hierarchical. Green Economics and its development is easily one of the most holistic and multidisciplinary economics the world has ever seen. There is no human activity, no part of the planet that is not of interest to Green Economics, it is the very economics of interconnectedness. William Bloom's (2000) edited collections contain an interesting set of writers on this theme including, Fritjof Capra, Carl Jung, Carl Rogers, E F Schumacher, Louise Hay, the Boston Women's Health collective and Robert Graves. As Harrison (1992:365) has argued, "The demands of the environment will present humanity with the challenge of breaking down the compartmentalisation of knowledge." Green Economics "could well become the science overarching all the others. As part of this we desperately need an overarching science of human interactions, both with each other through an economic system and with the environment, combining socio-economic and technological studies with dynamic analysis of the physical environment." Green Economics prioritizes the the realisation of Harrison's vision.

Green Economics' holistic, interdisciplinary foundation enables it to address the three most pressing issues of our time: global climate change, mass extinction of species, and biodiversity loss. Green Economics takes a view that is much longer-term than the short business cycles found in neo-classical and business school economics. Due to its recognition of the effects of a transaction on the 200,000th generation and beyond (Myers 1985), Green Economics can draw from history, palaeontology (with glacial-interglacial cycles lasting

40,000 years) (Maslin 2004) and archaeology. Thus, Green Economics does not simply discount the future, insisting that generations to come should not be unduly disadvantaged through the mass extinction and climate change currently underway. Intergenerational equity is investigated by such writers as Chit Chong and Priscilla Alderson (2006). Instead of mobilising the resources of the planet in support of human kind, we must surely mobilise the resources of human kind in support of the planet. This postulates a revision of our value systems, social paradigms and consumption culture (Myers 1985). Harrison (1992) argues that we might want to be remembered as the generation which made a difference by shifting the earth back into balance, and reconciling the needs of present and future humans and other species, instead of creating waste monuments and a “garbage mausoleum one to four thousand times our body weight.” Green Economics takes an even longer perspective, from the long term past through anthropology, archaeology and environmental science and uses this knowledge to filter its analysis of economic decision-making.

As the difference between the old logic and reality becomes greater yet again, and with the pressure and assistance of practical observation, the chances increase that a new stream of thinking can be started. Neo-liberalism cannot be the final answer to the economic questions of today as it is a concept based on the desire to preserve an existing logic and normative way of living. It is not about finding out the truth about the world we live in, it is about creating an economic framework that only allows specific values to flourish. When progressive and holistic concepts are not properly considered, their consequences and findings are not utilised for better economic policies, and they are then rejected as allegedly not working in practice, despite the fact that they never had a chance to be correctly implemented. The failure to address the reality in an unbiased way and the inherent old fashioned values that do not maximise human happiness within the conventional economic wisdom form show the need for the development of a truly scientific new approach. This approach would overcome the deficiencies inevitable in an attempt to push for preset ideas

rather than looking at present realities. Green Economics is suggested as being the correct holistic and objective framework to develop this fundamental alternative and to help economic thinking out of its self imposed gridlock. This gridlock debates the economics of existing power elites but not the economics of present reality.

Perhaps the most refreshing aspect of Green Economics is its multidisciplinary, its distinctive methodology, and innovation. It offers new insights to the significant and increasing problems of today, which it categorises as ecological/economical, intellectual, political, and ethical. Further, Green Economics is distinctive in six areas, each of which builds on older philosophical traditions, and have evolved and been influenced by the full spectrum of more recent thinking (Kennet, 2006). These are:

- i. enlightenment ideas of reason, imagination, and memory (Jevons 1871; Walras 1874-7);
- ii. critical theory (Habermas, Marcuse, Adorno and Horkheimer);
- iii. ideas about structure and institutions (Veblen, Foucault, Gramsci);
- iv. selected postmodern concepts (Derrida and Soja);
- v. feminist theories (Kuiper and Nelson); and
- vi. eco-feminist ideas (Salleh, Mies and Mellor).

These allow Green Economics to examine reality by means of multidisciplinary, complex, holistic, and long-term methods, while taking into account political and social aspects. This range frames economics within both the natural sciences (which main stream economists have been striving to achieve with limited success), as well as within the social sciences. It reorients modelling approaches so they are congruent with natural science processes, and it embraces the context of more verbal narrative. Above all, the range brings political economy, moral sentiments, and ethics back within its borders.

In terms of ethics, Green Economics focuses on correcting issues such as freeing one-fifth of the earth's 6.3 billion people that are still trapped in life-threatening poverty (Sachs

2005). Today, 2.8 billion people live and die on less than \$2 per day (Brown 2004:xv11). Further, the UN has reported that 30 million women and children throughout Asia and the Pacific have been trafficked over the past 30 years in the “largest slave trade in history,” while 40 million people in Africa have been threatened with starvation (Brown 2004:xxii and xxviii). Contrary to textbook economic theory, the radical application of neo-liberal logic appears to be making matters worse for the world’s poor. The argument is made by Harvard Business School (Prahalad and Hammond 2003:1) that “65% of the world’s population or 4 billion people earn less than \$2000 dollars per year – despite the vastness of this market, it remains largely untapped and revenue growth for multinationals entering them can be rapid, including more efficiency and low cost labour.” Off-shoring and outsourcing are the new drivers of change and provide for increasing lack of transparency and exploitation.

In stark contrast, Green Economics analyses the full impact of such theories for stakeholders and in contrast works for more, not less, equity. It prefers more direct and just methods rather than relying on the unproven assumption that greater consumption and wealth for the rich will trickle down to the poor. Current economic practise has resulted in one-fifth of humanity as stated above live in abject poverty. Of Planet Earth’s 6.5 billion people, one fifth of the world’s human population must go to bed hungry every night and live in morbid poverty (Sachs 2005). If one fifth of cars crashed and one fifth of aeroplanes fell out of the sky as a result of faulty design, the response would be to immediately return to the drawing board, reworking the system’s design. Our economics system has long been out of balance with nature. It has long been out of balance with people's needs. This failure ratio of economic theory is completely unacceptable and explains why the basics must be urgently rewritten.

As Milton Friedman said in 1970 in *Capitalism and Freedom*, “the only social responsibility of business is to increase its profits.” A new economics framework that

decreases the instances of guns, the arms trade, human trafficking, prostitution and drugs, making them less logical and less common economic activities, is a framework that provides “safely and securely” for everyone’s needs as much more of an imperative. Such safety requires the establishment of a new economics definition. Green Economics reincorporates earlier moral concerns into economics, in particular social and environmental justice, inclusiveness, equity and access. The appropriate scope must consider transactions’ effects on all stakeholders in the widest definition, including the biosphere itself. Such a broad approach is not fully compatible with neo-classical logic nor can it be reconciled with the short term logic of very large global corporations, which are required to maximize short term profit for shareholders.

While the social and theoretical underpinnings of this discipline are composite and heterodox, they also involve a deep dialogue with feminist economics issues. Shiva (1988) terms this “mal-development” of patriarchal foundations. The products of such businesses are no longer for the benefit of society as a whole. Greenhalgh (2005) argues that in order to have sustainability, products should no longer just benefit the owners of production, but should now benefit the consumer. Green Economics argues that products should also benefit the community, society and the natural environment, and aims to develop and strengthen the appropriate political framework to achieve this.

In terms of its attitude toward science, Green Economics has demonstrated a willingness to interact with reality as presented through the scientific. While orthodox economics uses positivist, modern tools to produce its strict and simple logic, it does so largely in denial of the sciences. But this is not necessarily a true reflection of reality. Reducing reality by application of simplistic mathematical concepts appears to make the world more precise than it actually is. Commoner (1971:97, 213) warned how modern technology caused intensifying “assaults on the environment, creating a debt to nature ultimately leading to ecosystem collapse.” He writes, “Modern technology extends man’s

effects on air, food and water accumulating rubbish and junk.” Green Economics adds verbal reasoning and description to the quantitative methods used to reflect the interconnectedness of the world. Although Green Economics may appear to reject scientific methods that are more precise and formal in their structure, the contrary is the case.

GLOBAL SCOPE:

A fundamental difference between Green Economics and the orthodoxy is that it seeks to create a global scope, to encompass the issues regularly ignored by traditional economics. Classical, Neo-classical, Keynesian, Marxist, and Neo-Keynesian economics focus on national boundaries, with a euro-centricity that cannot be found in Green Economics. For example, these schools may give thorough attention to unemployment rates in the EU but neglect some of the most pressing needs of people across nations. These schools consistently ignore the economics of developing nations, the economies of 80% of humankind. As this section will illustrate, these flaws were the impetus for the creation of many heterodox focuses within Green Economics. This new discipline encompasses the important theory of Basic Needs, which focuses on the South, as well as theories traditionally neglected within the orthodoxy, such as feminist economic issues which affect over 50% of the world's population. Further, conventional economics also negate or ignore the rights of the children -- who are our species' future. This section will begin with a discussion of the Neo-classical Economics debate, examining the social and environmental outcomes which Green Economics seeks to correct within the orthodoxy, and analysing the growth debate, which demonstrates the heterodox nature of Green Economics in its global scope.

Within its philosophical underpinning, the discipline critiques neo-classical economics from a Green Economics perspective proposing where it needs reform. Neoclassical economics has misused a narrow interpretation of Darwinism in order to justify capitalism, to advance the power of the strongest and fittest, and to preserve inequalities.

Green Economics challenges the reductionism and supposed objectivity of mainstream economics. This agenda tends to prioritise capitalism as a specific style to run the economy, and supremacy of unadjusted market solutions at the expense of people's needs.

Further, Green Economics argues that neo-classical economics is an instrument for social control, which imposes a set of values that does not maximise freedom, equity, or even utility. These neo-classical values are the foundation for the commodification of nature and eventually create poverty. The main element of criticism of so-called neo-liberal economic thinking is that, firstly, it is not "neo" in any way, as it follows the traditional economic concepts usually referred to as classical economics, it tries to defend itself against any criticism that suggests a different perspective might be possible or necessary following real evolutionary and climate changes. Secondly, use of the term "liberal" is questioned, as this term seems to be very selectively used by conventional economists. Many criticise every attempt by politicians or economists to influence the automatic outcome of market forces as being anti-liberal, but they rarely criticise large multinational corporations, whose behaviour is clearly outside liberal concepts of competition. The restriction of the international movement of the production factor labour (migration) supported by conservative sources attracts far less criticism from "neo-liberal" economists as do suggestions from green economists to manage international trade according to mutually beneficial rules.

Historically, the classical economic approach (Smith, 1776) was more often than not broad, diverse and philosophical in nature. Basic fundamental principles have been developed out of it to form the narrower and more conservative foundation of economics as a new science, which tends to misrepresent the original classical texts. Furthermore, classic economics developed over time into a very scientific format where findings are allegedly independent of time and historic context, leaving the philosophical approach behind. Technical analysis of economic behaviour dominated the discourse (see Marshall 1890), where the standard graphical analysis of the forces of supply and demand was defined. From

then on, the focus on technical analysis and increased use of mathematics became more exaggerated. Despite limitations to the variety of methods accepted as properly scientific, mainstream economics is currently characterised by an unhealthy range of contradictory views and lack of consensus. In addition, realistic alternatives in the early stages of development do not receive the attention they deserve.

Further, economic, social and environmental justice, fairness and equity are the foundation on which Green Economics is built. For example, the 1989 UN Convention on the Right of the Child divides rights into *protection*, basic *provision* of goods and amenities, and *participation*, which includes solidarity and community (UN Preamble, 1989). Rights are defined as shared entitlements that promote equality, solidarity, social justice and peace. This differs from neo-classical concepts of rights and the allocation of resources, which assume self interested individualism and market competition as the starting point for rights (Alderson, 2006). In Green Economics, the “invisible hand” (Smith, 1776) is assisted by access to data in the natural sciences on resource potential, as well as from the social sciences on needs, rights, requirements and local conditions. Appropriate level decision-making is encouraged which allows access and transparency for everyone. New indicators, rather than just GDP, show what the social and environmental justice targets could be. These include education and literacy, work and unemployment, gender pay gaps, consumption, relative distribution of wealth and income, health, deforestation, natural assets, desertification, and data on risk and trends such as energy usage intensity (Anderson 1991).

Green Economics is influenced by a number of thinkers who argue that poverty and inequality are linked, and that improving equality will help eradicate poverty both now and for future generations. The inextricable connection between poverty and environmental degradation through the neo-colonial role of the international markets was clearly demonstrated in Chichilnisky’s piece "North - South Trade and the Global Environment" in the American Economic Review (1994). In the Bariloche Model in Argentina, 1969-74, she

pioneered the concept of Basic Needs as an alternative way of measuring economic progress. Instead of the traditional neo-classical focus on GDP, Basic Needs is based on 4 needs that are essential for humans to participate in society -- food, shelter, health, education. In "Catastrophe and New Society," Chichilnisky argues that development based on the concept of Basic Needs is more realistic for developing nations as a measuring stick of progress than maximizing GDP, and is also more harmonious with nature since satisfying Basic Needs leads to consume fewer resources than optimizing GDP. Today 80 % of humankind resides in developing nations and 20% of the people in the planet lives at the brink of survival, with \$1 per day so the fundamental issue is their survival. In 1992, the United Nations Climate Convention (UNFCCC) was signed and ratified by all nations - including then USA – recognizing in Article 4 that poverty alleviation is a fundamental priority for developing nations. Also, in "Economic Development and Efficiency Criteria in the Satisfaction of Basic Needs"[ii] Chichilnisky examines the connection between the neoclassical theory of economic growth and dynamic models that focus on the satisfaction of Basic Needs, showing that both approaches lead to economics with the same level of clarity and rigour, and further lays out the argument about the similarities and differences between development patterns based on optimizing growth of GDP (which are very intensive in the use of natural resources) and more sustainable development patterns that are based on the satisfaction of Basic Needs, in "Development Patterns and the International Order" in the *Journal of International Affairs*, (1976). Finally, Basic Needs were further examined in discussion of its creation and historical evolution, and as the core of the concept of Sustainable Development, which is based on the satisfaction of the needs of the present and the future in *Sustainability, Dynamics and Uncertainty* (1998).Introduction, [iii],

Further asserting Chichilnisky's point, Lord (2004) and Max-Neef (1972) agreed that the basic needs of each person are paramount. Neef (1992) referred to nine basic needs: subsistence, identity, protection, affection, understanding, participation, leisure, creation and

freedom. Sen (1999) adds to this reasoning, asserting that that development and poverty relief are in themselves freedoms, and his capability theory expresses the idea that everyone should have what they need. Also influential to the development of the discipline, Schumacher (1973) argues for an even distribution, while Rawls' *Theory of Justice* (1971) insists that justice is fairness. Thus, justice in society must first be agreeable within the "Original Position" – from behind their "Veil of Ignorance," the just society can be chosen by members lacking any knowledge of their future positions in society. Rawls borrows from Kantian deontology that the means of promoting justice are as important as the ends. This is partly because "ends" are not guaranteed and therefore the precautionary principle even applies to principles of justice (Kant 1785). Therefore, Green Economics shows that environmental justice is not a "luxury" because it is the poor who are disadvantaged first by environmental degradation.

This paper has already analysed Green Economics' response to increasing levels of poverty and inequality worldwide, expressing that the aim of Green Economics is to create a new discipline which works for the benefit of all people everywhere, for the planet, the biosphere, non-human species, nature, and other life forms. Green Economics integrates ideas and theories which also are designed to help to end the systemic and institutional causes of inequity and poverty. It therefore takes an inclusive approach, promoting fairness, equity, participation, freedom, democracy with social and environmental justice at its core. Rather than simply working for individuals (and their preferences) or the requirements of powerful private corporations, Green Economics is developing a new conceptualization of needs and rights which will ensure genuine very long term sustainability, survivability, well being and happiness for all people everywhere, always within the limits and comfort of nature.

In addition, Green Economics' approach deals with the agenda of social and environmental outcomes, while putting these ideas into practise through policy-making, incorporation in the mainstream economics institutions, and academia. As stated by Kennet

(2006) “Our current economic system perpetuates poverty, inequality and social injustice. This is supported by a UNICEF Report (2007) about the well being of young people in the UK, a country which has the fifth largest economy in the world, but it has the overall worst standards among the 25 richest nations, in terms of the well being and happiness of its young people. The central goal of Green Economics is to provision for both the environment as well as society, recognizing the need for a system which elevates nature while at the same time defending that majority of humanity overlooked by the current system.

Global corporations, are un-elected but are now more powerful than many nation states but their activities are unaccountable such as Shell’s in the Ogoni lands in Nigeria. They increasingly take the place of public decision-making and privatising and controlling important public assets including ownership of the water supply. Bakan (2004) describes corporations as psychopathic entities in their pursuit of profit and power. As argued by Tsakalotos (2005) politically “Homo economicus” is interested in negative freedom,-or minimising the interference from satisfaction of preferences of either the individual or the state and consuming private bundles of goods rather than investing in relationships.”

Along with the work of Gramsci (1932-4), Green Economics has been influenced by the work of Polanyi (1944) and Braudel (1973) in attempting to understand the imposition of destructive, economic power in the socio-political order. Barry (1999) argues that the dis-embedding of the economy from other social, political and regulatory spheres was combined with the commoditization process created modern industrialisation. This combining was accompanied by the processes of enclosure and privatisation during the agrarian revolution which forced people to sell their labour to owners of production who used the natural world as resource inputs. Labour and capital were free to move and be exchanged. This made it possible for new unbridled institutions of economic exchange to grow into the dominant global corporations we have today, supported by the global institutions like IMF and World Bank and the G8, whose wishes are supported by the use of force.

Further, Green Economics seeks to reconnect the values and costs of transactions with the natural world and with social structures. It seeks to enhance the local economy, supports bio-regional developments, democracy and access for all, and seeks global governance through new institutions designed for this purpose. One example is the production of cash crops in developing countries which replace local food requirements, requiring capital that leads to the constant necessity to service huge levels of debt. The consequence is increased dependency on the developed world and its institutions. The transformation of food production into a global agro-business controlled and owned by a small number of businesses, requiring large centralised control, is a structural concern.

This paper has considered the role of Green Economics in within the heterodoxy, and has sought to demonstrate its importance for ameliorating socio-environmental outcomes. With its new theoretical and ontological developments, Green Economics is dynamic while firmly established in a multidisciplinary, heterodox and holistic framework. This paper has sought to underline its multidisciplinary and holistic value, its role within the heterodox economics tradition, and the pluralism so important to its functioning. These issues have been laid out within three themes of time, scientific, and global scope, and the paper has considered the issues of sustainable development, neo-classical economics, socio-environmental outcomes, and the growth debate as well. For the reasons expressed in this paper, Green Economics is agreed by many to be the only available answer to the climate crisis and global economic crisis, and as a guide to human civilization's future.

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ⁱ see also the discussion in **Valuing the Future** (G. Heal, 1998, Columbia University Press, Chapters 5 6 and 7.