AN EVALUATION OF THE MARXIST APPROACH TO THE ENVIRONMENTAL CRISES

Javed Akbar Ansari, Aamir Hussain Siddiqui, and Sved Ammad Ali

ABSTRACT

Environmental crises have now become a very serious global issue and work in this area has led to something of a revolution in Marxist theory which has contributed to its continued resilience within the academy. This paper is an attempt to assess Marxist ecological theory and evaluates the solutions this school offers towards addressing contemporary environmental challenges. We argue that Marxist eco-socialists have been (so far) unable to prove that the type of technological fixes suggested by capitalist scientists and adopted by capitalist states and market agents will necessarily fail to effectively respond to environmental changes ensuring the sustainability of capitalist order.

Keywords: Environment issue, Marxist, Commodification, Anthropocene

The seriousness of environmental crises is now widely recognized and among a group of scholars who have addressed these issues, Marxist ecosocialists have emerged as a major tendency. Indeed work in this area has led to something of a revolution in Marxist theory which has contributed to its continued resilience within the academy (Foster 2016; Hornborg, 2017; and Zalasiewicz *et al* 2015) This paper seeks to assess Marxist ecological theory and evaluates the solutions this school offers towards addressing the contemporary environmental challenges.

This paper is divided into three sections. We begin with an eclectic review of the nature and extent of emerging environmental crises the world currently faces. This is followed by an assessment of Marxist ecological theory and a tentative critique of some Marxist policy proposals to surmount environmental crises. We end our paper by raising some questions which we think Marxist scholars may address to enhance the policy effectiveness of their work.

The Anthropocene and its environmental impact

There is widespread recognition today that the geological epoch — the

Holocene — which has existed throughout mankind's history and prehistory — is entering a new phase (or is ending) and we live in a world so dominated by human activity that natural geological balances are being undermined.

Human behaviour is transforming this world into an increasingly warmer, deforested, less biologically diverse and storm and cyclone-prone planet in which mankind's extinction becomes increasingly possible.

The term "Anthropocene" was coined by Paul Crutzen, a Nobel laureate of 1995 who argued that relentless widespread use of chemicals was gradually destroying the earth's ozone layer. In the Anthropocene epoch the key environmental parameters" have moved well out of the range of natural variability exhibited over at least the last half a million years. "The nature of changes now occurring simultaneously in the earth system is unsustainable" (Crutzen and Steffen 2003 p.253)

The characteristics of the Anthropocene epoch and its likely impact on mankind's existence was described in a seminal contribution in 2004 at the International Geological and Biology group (Steffen et al 2004) synthesizing the work on the current state of the earth system and its likely development leading to multiple catastrophes.

Some scientists have queried whether the Anthropocene is a distinct epoch or an age within the Holocene (Waters et al 2014). Early authors on this theme² including Crutzen dated the onset of the Anthropocene from the late 18th century suggesting that industrialization is as such the cause of the environmental decay a view mostly endorsed by the Green theorists and rejected by most Marxist eco-socialists who attribute environmental degradation to capitalist exploitation of human labour and the earth. Authors such as William Reddman (2003) have suggested that the Anthropocene began eight thousand years ago (with the emergence of large-scale agriculture). Such views are also rejected by Marxist eco-socialists.

Marxist eco-socialists argue that the authors dating the Anthropocene from ancient times "gradualise the new epoch so that it no longer (seems as) a rupture but a creeping phenomenon due to the incremental spread of human influence. This undermines (an appreciation) of the severity (and irreversibility of the Anthropocene and mischaracterizes) the type of

¹ The term 'Anthropocene' was first used by Crutzen at a conference of the International Geosphere-Biosphere program in 2000.

² international Geological Congress scheduled to meet in August 2016 was expected to decide on this issue.

human response necessary to overcome its impacts (Hamilton and Grinevald 2015 p64)

Marxist eco-socialists argue that as the International Ecological and Biological Group's 2004 report shows there a strong correlation between indicators of human activity³, and of the changes in the earth system⁴ both of which have accelerated sharply since about 1950 (Steffen 2004)

During 2005-06 several authors have maintained that the earth is in its "sixth great extinction period characterized by rapid species loss increased atmospheric concentration of greenhouse gasses severe warming. Fertilizer production and fossil fuel combustion have led to more nitrogen conversion from the atmosphere into reactive forms than by all-natural forces in terrestrial systems put together⁵.

Marxist authors such as Barry Commoner and John Bellamy Foster attributed the onset of the Anthropocene to the transition of many social formations to a monopoly capitalist stage characterized by the social domination of the large multinationals and the very widespread use of non-degradable synthetic products (Foster 1994). Marxist eco-socialists thus stress the need to link the movements for environmental preservation and capitalist transition. This they claim is a fundamental Marxist insight overlooked by many orthodox Marxists who ignore Marx's emphasis on capitalism's tendency to engender an 'irreparable rift' in the processes of 'social metabolism'. Marxist eco-socialists thus seek to develop a sociopolitical account of the origins and dynamics of the Anthropocene epoch.

Marxist eco-socialists endorse the view that in about thirty to fifty years the global carbon budget limit will be broken, the average temperature will rise by two degrees centigrade and atmospheric conditions will change irreversibly so that the survival of mankind will become increasingly difficult if not impossible. Thus in the Marxist socio-economic view, the world has about fifty years to bring about a fundamental change in the hegemonic global political economy –capitalism as we know it —to avoid suicide⁶.

These include GDP and population growth, energy consumption and water usage etc.

⁴ These include atmospheric carbon dioxide, ozone depletion, species extinction, deforestation etc

⁵ These studies are reviewed in Steffen W (et al 2015) and Angus (2014).

⁶ This view is of course shared by a growing body of geologists, biologists and non-Marxist ecologists. For an early statement see Burton and Kates (1988), on the other hand, several scientists believe that preventing a 2-degree centigrade increase of average global temperature is impossible and the irreversibility limit is a 3-degree centigrade or 4-degree centigrade rise in global temperature.

According to Marxist eco-socialists, the fundamental cause of the biogeochemical disruption is accelerated capital accumulation. Green theorists and other ecologists, in the Marxist view, fail to appreciate the social systemic roots of the global environmental crises (Klein 2014 p 34-63) when they argue that environmental crises can be effectively tackled within the context of the existing global politico-economic system. Naomi Klein regards the "social denialism" of the mainstream liberal discourses as the principal barrier to the development of adequate (non-capitalist) policy response to environmental deterioration (Klein 2014). Green theory⁷ is dismissed on grounds for its "abstract, ethical orientation" (Klein 2014 pg-61) and its implicit acceptance of the classical economist view – heavily criticized by Marx – that "nature is a free gift to capital (Schmidt 1971, pg 9-10) Capitalism is said to exploit the environment and ignore the physical degradation that it causes (Despain 2015 p-41)

The Marxist Environmental Critique of Capitalist Order

The Marxist ecological critique developed in several stages. Soviet ecologists first identified speeding up of global warming in the late 1950s by pioneering geo climate studies. They were early analysts of the natural – social dialectic which influenced the evolution of the earth system (DeBardeleben 1985). Their work is often described as "late soviet ecology for ecological theories and concerns with conservation had emerged in Lenin's times⁸. Rioli Bukharin wrote on the dialectical interchange between human activity and the biosphere and Boris Hemen developed a materialist analysis of the history and sociology of science (DeBardeleben 1989). Stalin's failed attempt at "transforming nature" (the so-called acclimatization movement involving the destruction of ecological reserves) was condemned by many late Soviet biologists.

In the 1940s a concept was developed which studied combinations in a specific area of the earth's surface of atmospheric material strata, animal vegetable and micro biotic life, soil and water contents possessing its specific type of interaction of these components...representing an internally contradictory dialectical unity being in constant movement and development (Sahlins quotes in Foster 2015 p.6).

This theoretical breakthrough led to several policy developments the

⁷For Green theory see Smith (1998)

⁸The All Russian Conservation Society was established in 1924 with Lenin's encouragement and ecological reserves were set up all over the country (Weiner 1988)

most important of which was the launch in 1948 of the Great State Plan for the Transformation of Nature. This led to massive forestation throughout the Soviet Union based on the appreciation of the fact that restoring and maintaining forests' ecological health was necessary for regulating climate change. This is justly seen as the first major human initiative for controlling the climate⁹. In the 1950s another Soviet Union climatologist Mikhail Budykov was to be among the earliest to recognize global warming and predict its acceleration.

Despite the work of these scientists, Soviet environmental degradation had continued apace because of Stalin's industrialization drive and it accelerated after Stalin's death (Peterson 1993). "Late Soviet Ecology" developed into the world's first environmental preservation movement in response to Khureshov's attempt to rapidly industrialize agriculture¹⁰ From then an emphasis on the interaction between people and nature and on the assertion that a socialist organization of society would ensure optimal forms of such interaction became pronounced in the Soviet ecological literature.

The work of Budykov– who was the earliest to point out the impact of global warming feedback mechanisms on global average temperature was also very influential. Both Federer and Budykov continued to emphasize the need for changes in human behaviour to mitigate environmental degradation throughout the 1960's—especially important in this context was Budykov's 1966 paper "The Impact of Economic Activity on the Climate", Budykov believed that capitalist economies would not be able to induce desired behavioural changes for addressing environmental degradation. He, therefore, investigated the possibility of "technological fixes" to deal with climatic changes, just like mainstream western liberal ecologists¹¹. Many Soviet ecologists, including Federer and Budykov, had warned of the impact of nuclear war on the environment—the well-known "nuclear winter theory" leading to human extinction. A central argument of the late Soviet ecologists was on the continuing negative interchange between human activity and the environment. Budykov argued that Sovietstyle economic planning was necessary for sustaining an environment ruled by 'reason'. In the 1980s what can be best described as "materialist humanism" characterized the work for some major Soviet ecologists,

⁹ The Plan was soon dropped after Stalin's death in 1953

¹⁰ In the late 1960s, the ecology of Baikal lake the world's largest freshwater reserve was interfered with by diversion of rivers which flowed into it.

¹¹ Thus Budykov suggested using aeroplanes to dump aerosol in the atmosphere as a geoengineering tactic to manage climatic change. He did not, however, advocate market solutions see Budykov (1977).

notably Frolov who argued that there was a need to reject the traditional view that humanity has a right to dominate nature (Frolov 1982). In a major anthology published in 1983 Frolov argues for ecologically justified development which takes into account "the objective dialectic of the interactions of society and nature" (in Ursal1983 p271) Frolov recognized that humanity has become a geological force and planning was seen as a mechanism not to limit its environmental impact but to manage it.

There is no advocacy of limiting growth (progress) in the writings of the late Soviet ecologists¹². The "ecologisation science" they advocate does not indicate how existing Soviet planning could be adapted to address the environmental catastrophes that had been created in the USSR over the past half-century even after Chernobyl. Progress – rather than sustainability — remained the major concern for most Soviet ecologists.

Unlike Soviet ecologists, the first group of western Marxists writing within the New Left tradition that emerged in the 1950s and 1960s did not recognize the ecological insights in classical Marxist texts. They thus sought to add on Marxist conceptions into Green theory or vice-versa¹³.

Subsequently, Marxist eco-socialists have sought to excavate Marx's material conception of nature and relate it to his naturalist conception of history. "Second" and "third" stage Marxist eco-socialists emphasize their orthodoxy within the Marxist tradition by claiming their adherence to Marx's methodology¹⁴. These "third stage" Marxist ecosocialist seek to apply Marx's methodology to understand the nature of environmental crises to transit to a society in which the development of each is the condition for the "free development of all" and in which "freely associated producers govern the human metabolism with nature in a rational way" (Marx 1991, p959). The Marxist method of social analysis leads to the recognition that it is capitalist relations of production which have created an "irreparable rift" in nature —human relationship and repairing this metabolic rift requires incorporating ecological concerns in the project of constructing socialist society (Burkett 1999). Moreover, capitalist relations are the primary if not the sole cause which has distorted man's relationship to nature, employing the dialectical method allows Marxists

¹² P.G Oldaks suggestion about widening the scope of national product accounting by including within its ambit services (health and education) does not impose any limits on capital accumulation and is similar to UNDP's HDI indices (Ursul 1983)

¹³ Some of this work is described in Foster J.B (2014)

¹⁴ As Lucaks wrote "orthodoxy refers exclusively to the method" in History and Class Consciousness (1977 p-1)

to recognize that while social organization "in the last instance" depends on material and biological forces, it also necessarily impacts upon them. Man exploits nature in different ways and to different extents in different historical circumstances. This assumes that capitalist individuality is essentially a product of a history which determines both social and natural man's being and consciousness. Nature is man's body and man remains in constant dialogue with this "body" through labour (Marx 1942 p 283). Labour and freedom are perhaps the only two universal categories in Marxist methodology. Changes in systems of production —both mode and relationships —is a necessary means for changing man's "dialogue with nature." Re-articulating the labour process (Meszaros 2010 p10) is thus a key ethical and political process to which Marxist eco-socialists remain committed. This commitment is also seen as the "rational way to connect the social organization to the universal metabolism of nature" (Marx Engels 1975 p55-56).

First stage Marxist ecologists had in the main accepted Herbert Schmidt's somewhat negative assessment of Marx's work on nature (Schmidt, 1971)¹⁵. It reflected much of the social denialism of mainstream liberal ecological thought but acceptances of Green theory themes led Schmidt to advocate piecemeal solutions and ignore systemic issues¹⁶. First stage Western Marxist's eco-socialism¹⁷ was characterized by continued emphasis on 'progress' rather than 'sustainability'.

On the other hand, Paul Burkett's book "Marx and Nature" published in 1999 rejected the eclecticism of Gorz and Benton and developed a concept of the "ecological value-form" (derived from earlier works by I. I. Ruben). The transformation of nature (raw materials) by labour into usevalues is "general" production: The capitalist labour process then transforms use value into exchange value. In capitalist economies, Marx argued that nature was taken to be "a free gift to capital" and excluded from national total product estimations (GNP) since "value-added is the sum of wages plus rent plus profits (surplus value)" (Burkett, 1999 p-71).

Capitalism commodifies segments of nature by turning them into a trade-able capitalist property and thus included as income of their owners

¹⁵ Schmidt saw himself as a Marxist. His book <u>The Concept of Nature in Marx</u> was originally his PhD thesis presented to the Frankfurt School under Horkenheiner's supervision.

¹⁶ This school of thought is represented in works of Benton (1989) and Gorz (1994)

¹⁷ Sometimes referred to as 'greening of Marxism'

in aggregate exchange value calculations. Segments which cannot be commodified - sunlight, the climate, wild animals, and their habitats - are free gifts and costs of their use in capitalist order are not taken in to account. It is this cost less exploitation of non-commodified nature which generates environmental crises¹⁸ according to the Marxist eco-socialists.

Thus, capitalism has a built-in tendency to plunder nature through the industrialization of agriculture (which robs the soil of its natural nutrients) and colonization of non-capitalist countries leading to the export of soil and nutrients in the form of fuel, fibre and food (Marx, 1992, p-149). Ending the 'exploitation' of labour as well as ending the exploitation of nature was thus seen as necessary to overcome the "metabolic rift" which capitalism has created. The transition to socialism will ensure that "socialized men – will govern the human metabolism with nature in a rational way – appropriate for their nature" (Marx, 1997, p. 959).

Marxist eco-socialists hold that regarding nature as a free gift to capital, capitalism externalizes the cost of environmental degradation on nature and future generations. Continued capital accumulation in the short to medium run (say throughout the 21st century) is quite compatible with continued environmental degradation, some Marxist eco-socialists claim¹⁹. This compatibility has been called into question by the Monthly Review School now asserts this incompatibility "Finance monopoly capitalism" has so exacerbated, the environmental crisis, that the ultimate incompatibility of accelerated capital accumulation and environmental "plunder" is becoming increasingly evident²⁰. This school asserts that "the problem threatening the environment is the accumulation of capital, under the present phase of monopoly-finance capital and not just growth" (Foster, 2015, pg 10 emphasis in original) – presumably planned capital accumulation and growth is compatible with environmental sustainability according to this view.

Marxist eco-socialists recognize the cultural impact of "monopoly capitalism". In the 1960s, Paul Baran had written "people steeped in the

¹⁸ The widespread advocacy of national and international capitalist agencies of carbon emission trading and privatization of oceanic and freshwater resources illustrates how increased commodification is seen as an efficient means for tackling environmental degradation.

¹⁹ This claim is to be found even n the "treadmill of production" perspective developed by Schnaberg (1980) ²⁰ The concept of finance capitalism is derived from Lenin who wrote "the typical ruler of the world has become finance capital, a power that is peculiarly flexible and mobile; peculiarly entwined at home and internationally, peculiarly devoid of individuality and divorced from the process of production, peculiarly easy to concentrate (Lenin 1973, p 13-14)

culture of monopoly capitalism do not want what they need and do not need what they want" (Baran,1969, p 30). Monopoly capitalism accelerates the oncoming of environmental catastrophes by the waste of energies and natural resources, production of synthetic and toxic products, a gigantic and quite unnecessary sales effort and astronomical nuclear arms buildup (Foster and Chesney, 2012). It is this "artificially stimulated growth" and not "growth as such" which needs to be curtailed to ensure sustainability. This "artificially stimulated growth" is sustained above all by "gigantic" increases in distributional inequalities which feed into the continued development of environmentally destructive technologies of production and exchange. Capital is technologically and socially pushing against "planetary boundaries" which it cannot have the power to override.

The economic crisis which erupted in 2007/2008 due to "overaccumulation", financialization and relative stagnation (i.e. GDP growth rates falling globally and especially in Europe) feeds into environmental crises (Foster and Chesney, 2012). And "austerity" economics provides no solution and exacerbates environmental crises for it is focused upon accelerating the pace of "the production treadmill". As Habermas wrote as early as 1975, "Capitalist societies cannot follow the imperatives of growth limitation without abandoning their principle of organization. The production of productive forces cannot be uncoupled from the production of exchange values without violating the logic of the system (Habermas, 1975, p 41-43). The principal means for producing such uncoupling is by creating a "just" re-distributive system that argues Marxist eco-socialists.

According to the Marxist eco-socialists, an "environmental proletariat" is emerging, the frustration and deprivation of which is leading it to recognize the need for avoiding environmental disaster by overthrowing the system. This "environmental proletariat" appreciates the relationship between food crisis, water shortages, power failures and increased pollution on the one hand and growing inequality, unemployment and growth deceleration (stagnation) on the other. It regards the second set of a phenomenon as the primary cause of environmental degradation and is struggling to overthrow the "capitalist class" both for redressing economic injustices and ensuring environmental sustainability (Harvey 2010)²¹. The "environmental proletariat" - consisting of activists of the climate justice

²¹ Harvey calls the mass movements against ANC rule in South Africa during the 2000-2010 decade as a co-revolutionary struggle against both austerity policy and environmental degradation (Harvey 2010 p228)

movements, indigenous and coloured people, women, LGBT and students - are joining forces with the traditional working class and calling for "system change not climatic change". The "environment proletariat" may not at this stage be espousing Marxist eco-socialist perspectives but its immediate demands are paving the way for the triumph of Marxist eco-socialism (Magdolf and Foster, 2011, p123-141)

The Marxist Eco-Socialist Agenda for Addressing Environmental Crisis

These perspectives have been widely challenged in the literature by non-Marxist ecologists and by some Marxist ecologists as well e.g. Bond (2012), Guha (1999). The mainstream environmental debate at both global (UN) and national forums is firmly rooted in arguments which seek to prove that environmental sustainability can be achieved by institutional and technological fixes within the existing global capitalist order²². We will not rehearse this argument here but instead, end this paper tentatively assessing the policy solutions of Marxist eco-socialists to achieve environmental sustainability.

Marxists argue that the primary agency for instituting the "sustainable human development" regime they advocate will be ordinary laymen organized in mass movements and not elites. The man in the streets is gradually developing the "good sense" that induces him to take the environmental crises seriously. For Antonio Gramsci "good sense was the healthy nucleus of common sense (it is) necessity which gives a constant direction to a conception of activity" (Gramsci 19 p 327). This has been interpreted to mean "conception of truth... and an emergent morality among those who do not rule our planet" (Ytterstad 2014 p141). This "morality" induces the individual to recognize the need for "an effective and active (practice)" (Nilsen 2009 p412). According to Gramsci "the subaltern classes want to educate themselves in the act of government and (therefore) have an interest in knowing all truth" (Gramsci quoted in Thomas 2009 p452)²³. What are the elements of the strategy aiming to intensify the need for enhancing the consciousness of the masses of the need for struggling for environmental sustainability as an element of the struggle for "system change"?

Proletarian morality is the morality of freedom. This morality is

²² As represented in the December 2015 Environmental moot of the UNI in Paris.

²³ It should be stressed that Gramsci was writing in the context of a classic proletariat revolution aiming at the establishment of the dictatorship of the proletariat and not in the context of environmental crises.

presumed to have a "scientific base" in the belief that society does not pose for itself tasks the condition for whose resolution does not already exist. When the solution of these tasks becomes a duty, will becomes free morality (becomes) a search for the conditions necessary for the freedom of the will (Gramsci 1971 p409-430)²⁵ emphases in original. Thus the common man has to believe in the seriousness of environmental crises. He has also to be convinced to believe in the solutions to these crises proposed by the Marxist eco-socialists.

Arguments for impending environmental catastrophe have been challenged and the credibility of Marxist eco-socialists solutions is of course disputed. The fundamental question; why should the rational adult of 2019 undergo stress and endure suffering (through revolutionary struggle) to prevent environmental catastrophes that will occur after his death, has not been seriously addressed by advocates of "exhaustive realism" (Collier, 2005 Craven 2007). Freedom necessarily ends with death and if necessity is conceived "as a search for conditions necessary for the freedom of the will" (Gramsci 1971 p 432) there is no reason to concern oneself with events after death. If the environment activist is committed to Enlightenment rationality, how can he recognize any "interest" in existence after his existence has ended?

Collier's "use value rationality (2005)" cannot determine after death choices for the "use" in the Enlightenment view ends with death. Moreover, capitalism expresses use-value through exchange value calculations and planning systems in actually existing socialist countries have also invariably done so. How can use rationality estimate costs and benefits of after death choices for individuals with or without reference to exchange values? Demands for "climate jobs", land preservation by indigenous people, and temperature stabilization by low-lying island countries, such as the Maldives, all reflect immediate concerns. The third-world leaders who argue most vociferously at global environmental venues are strongly committed to accelerated growth strategies and very reluctant to reduce national carbon emissions or adopt other environmental deterioration prevention measures themselves. The policy suggestion of the Marxist ecosocialists mainly relates to the immediate -not after death- "interests" of the masses they seek to mobilize. Those demanding climate justice are raging against environmental "crimes" of others (the rich countries, the corporations, the militaries) they are not in the man motivated to reduce their consumption. The Marxist eco-socialist movements feed upon this rage and argue that transforming the relations of production will ensure improvements in the consumption level of living ordinary people. The Marxists rejoice that "more people are getting angrier" (Ytterstad 2014 p159) at climate injustice but can anger motivate people to accept a reduction in their consumption level. The Marxist eco-socialists argue that the working class will lead the other elements within the "environmental proletariat" to struggle for promoting their immediate material interests on a policy platform which combines demands for higher wages, better working conditions more jobs, poverty alleviation, education, reduced inequality with measures for arresting environmental degradation.

The alliance of the environment and working-class proletariat is urged to struggle against low wages (Despain 2013 p40) and rising inequality through the establishment of workers "self-managed corporations" and workers' control of "socialist savings" (Schweickart 2011 p132): Alpowitz argues that this "has the potential to renew a sense of community" (quoted in Despain 2013 p42). This is, however, no reason to believe that such a community will reject Enlightenment, rationality or welfare and profit maximization.

Ruskin calls for a 'great transition' in which consumerism, individualism and domination of nature will be replaced "by a new triad of quality of life, human solidarity and ecological sensibility" (Raskin 2006) — the relationship of "consumerism" and "quality of life" is not explicated by him: how is "quality of life" to be measured if not through utils — this is a problem which has remained unsolved since the time of John Stewart Mill. The Marxist ecosocialist conceptions of human development are qualitative, collective and cultural, and require for their fulfilment the egalitarian conditions of "basic communism", with distribution according to needs (Foster 2015 p 9). We have elsewhere described in some details Marx's conception of communist society (Ansari 2016 appendix 2)²⁴. And it is not at all obvious that communism will usher in "a stationary state a steady-state economy without net capital formation (Foster 2015 B p9). Quite the contrary communism is seen as a state of abundance where desire fulfilment is assured and all the time is spent in productive labour. It is not clear why Marxist eco-socialists expect continued expanded production under communism to become

²⁴ According to Marx in 'Basic Communism'' there is the elimination of the division of labour, activity with and for others becomes a primary want of all, human mastery over nature, the end of organization of all human activity except production and elimination of law and disappearance of all human collectivities – firmly, race, nation, community, class, state. For sources see (Ansari (2016, p204)

environmentally sustainable while rejecting the liberal claim that continued economic growth can be made compatible with environmental sustainability.

The immediate demands of the Marxist eco-socialists when they participate in environmental, mass movement²⁵ - such as the imposition of a carbon-free system, a ban on coal-fired plants and fossil fuels, cutback in nuclear and military expenditure and zero growth in rich countries- are indistinguishable from those of many Green and liberal environmental lobbies, minus the latter's ethical arguments and a greater emphasis on redistribution²⁶ and there is no reason to believe that the implementation of such measures will lead to a transformation of individual consciousness and a rejection of consumerism and individualism - hermits and monks and sadhus and fakirs are not to be found in the ranks of the "environmental proletariat". Such movements may mobilize the general public but cannot motivate the individual to curtail his standard of living (invariably and inevitably measured in utils). Many environmentalist movements are seen by Marxists as – and often are in fact- struggles against precariousness and poverty.

"Precariat" and "proletariat" participants within these movements struggle to end their material deprivation- these are movements of revenge-seeking to deprive the "other" of his riches. They are not movements for moral rejuvenation- Moral rejuvenation is not fostered by anger and hatred. A revolutionary movement may or may not transform capitalism from "within" and planning may or may not replace market mechanisms as an instrument for achieving sustainable development. What the substitution of socialist relations of production for market mechanisms cannot achieve is a transcendence of Enlightenment rationality and the individuality it nurtures. This individuality is committed to freedom within this world and the quest for freedom is necessarily the quest for the domination of nature.

Enlightenment rationality and commitment to freedom/welfare maximization is, of course, a relatively recent historical phenomenon, and as Naomi Klein points out many "Blockadia" movements demonstrate attachment to different conceptions of land and life (Klein 2014 p 287).

²⁵ Which in their views is the coalition of the environmental and working-class proletarians.

²⁶ Marxists often propose redistribution of money raised through carbon taxes to the entire population of a country on a per capita basis.

Most important among these are the indigenous movements of Latin America, Africa and Indonesia defending land rights but this attachment to 'mother earth' is only one element of the lifestyle of these communities (Red Indian, Inuit, Dyaks) who cannot be conceived of as expressing a commitment to a Marxist (or any other) conception of freedom and progress. We are unaware of any Marxist text which argues that the Marxist conception of a "society of abundance" can sustain/universalize the life-world of the Amazon forests²⁷. The "Blockadias" may be seen as movements for capitalist justice rather than for environmental sustainability per se or transition to socialism.

In capitalist order value is calculated as exchange value whether through market mechanisms or planning. This means that for an object to command value in capitalist order it must be commodified (produced as something which can be bought and sold, exchanged as value). According to FAO estimates the world currently produces and trades (i.e. commodifies)18 live stocks and 155 crop species (quoted in Roppel 2015 p104) out of an estimated total of 1.58 million currently existing species.

Exchange value can be ascribed to not yet commodified resources by integrating them in capitalist markets through an extension of capital ownership trade and valuation (via capital and commodity markets). This is already being attempted by the privatization of water, solar energy, industrial and urban waste and land grabs etc. Marxist eco-socialist fails to show why an extension of capitalist valuation mechanisms to non-renewable resources is a necessarily ineffective means for averting environmental crises.

Despite the systemic resistance to adopting the technological fixes that would involve the commodification of more and more natural resources many capitalist states and elites increasingly recognize the need to undertake environmental management to sustain capitalist order. Technological adaptation has been a key feature of capitalism's history and its resilience to existential threats and crises is considerable. In our view, Marxist ecosocialists have been (so far) unable to prove that the type of technological fixes suggested by capitalist scientists and adopted by capitalist states and market agents will necessarily fail to effectively respond to environmental changes ensuring the sustainability of capitalist order.

²⁷ These lifeworks are described for example in Salins (1972)

REFERENCES:

- Ansari J. A (2016) Rejecting Freedom and Progress, Lahore Kitab Mahal
- Baran P. (1969) The Lenger View New York, Monthly Review Press
- Benton T (1989) Marxism and Natural Limits New left Review No. 189 p48-70
- Bond P. (2012) Politics of Climate Justice University of Kwa Zulie Natal Press
- Budykov N.I. (1972) Climate and Life Moscow Progress Publishers
- Burkett P (1991) Mark and Nature: A Red and Green Perspective Chicago Haymarket Press.
- Burkett P (1999) "Nature's Free Gift and the Ecological Significance of Value", *Capital and Class* No. 23 p89-110
- Burton I and R Kates (1986) "The great climacteric 1798-2048: The transition to a just and sustainable Human development" in Kates R and Burton I (ed's) *Geography, Resources and Environment*, Chicago University Press Vol.2 p281-312
- Collier A. (2005) In Defence of objectivity and Other essays on Realism, Existentialism and Politics London Routledge
- Craven, S. (2007). Emergent Marxism, Dialectical Philosophy and Social Theory London Routledge.
- Crutzen Paul Steffen W (2003), "How Long have we been in the Antrhropcene era", *Climate Change* No. 6
- Despain H (2015) "It's the System Stupid: Alternatives to Capitalism" Monthly Review Vol 65 No. 6 2013 p39-44
- DeBardeleben, Joan (1985), The Environment and Marxism-Leninism, Boulder Westview press.
- DeBardeleben, Joan (1990) Economic Reform and Environmental Protection in the USSR, *Soviet Geography*, 31:4, 237-256, DOI: 10.1080/00385417.1990.10640828
- Federer E.K (1972) Marx and Nature New York Prager
- Foster B.M (1995) "The Great Capitalist Climactric" *Monthly Review* Vol 67, No. 6 p1-18

- Foster B.M and R.W. McChesney (2012) The Endless Crisis, New York Monthly Review Press
- Foster J.B (1994) The Vulnerable Planet New York, Monthly Review Press.
- Foster JB (2015) "the Planetary Crisis and Late Soviet ecology" *Monthly Review*, Vol 67 No. 2 p1-20
- Foster J.B (2016) "Marxism in the anthropocene: Dialectical rifts on the left" *International Critical Thought*, 6(3), 393-421.
- Frolov I. (1982) Global Problems and the Future of Mankind Moscow Progress Publication.
- Gorz A. (1994) Capitalism Socialism, Econolgy, London Verso
- Gramsci A (1971) Selections from the Prison Note books London, Lawrence and Wisehart
- Guha R. (1999) Environmentalism: a Global History, London, Longmans
- Habermas J. (1975) Legitimation Crisis, Beacon Press
- Hamilton C and Grinevald J (2015) "Was the Anthropocene Anticipated" Anthropocene Review Vol.2 No. 1 p-59-72
- Harvey D (2010) The Enigma of Capital, Oxford University Press
- HorkenheimerM and Adorno T (2001) TheDilectics of Enlightment, New York Continuium
- Hornborg, A. (2017) "Dithering while the planet burns: Anthropologists' approaches to the Anthropocene" *Reviews in Anthropology*, 46(2-3), 61-77.
- Klein N. (2014) This Changes Everything Capitalism vs the Climate, New York Simon and Schuster
- Lenin V.I. (1973) "Introduction" in Bukhanin N Imperialism and the World Economy, New York Monthly Review Press.
- Magdoff F. and J.B Foster (2011) What Every Environmentalist needs to know about Capitalism New York Monthly Review Press

- Marx K (1991) Capital Vol III, Hamondsworth Penguin.
- Marx K. (1992) Capital Vol I" HarmondsworthPengiun
- Marx K and F. Engels (1975) Collected Works Vol-30 New York, International Publications.
- Mészáros, I. (2010). The structural crisis of capital. NYU Press.
- Nilsen A. (2009) "the Authors and the Actors of their own Drama", *Capital and Class* Vol 73, No. 3
- Peterson DJ (1993) Troubled Lands: the Legacy of Soviet Environmental Destruction Boulder Westview Press
- Reddman W (2003) "The Anthropogenic Greenhouse Era Began thousands of years Ago", *Climate Change* No. 61 p261-93
- Rasken P (2006) The Great Transition Today: A report from the Future Boston, Tellus Institute
- Sahlins (1972) Stone Age Economics Harmondsworth Penguin
- Schmidt H. (1971) The concept of Nature in Marx London, New Left Books
- Schnaberg A (1980) The Environment, Oxford, Oxford University Press
- Schweickart D (2011) After Capitalism New York, Littlefield Publishers
- Steffen W (2015) "The Trajectory of the Anthropocene, the great acceleration" *Anthropocene Review* Vol.2 No.1, p81-98
- Steffen W. et al (2004) Global Change and the Earth System, New York, Springer
- Thomas D (2009) The Gramscian Moment, London Boult
- Ursul A.D (ed) (1983) "Philosophy and the Ecological Problems of Civilization" Moscow Progress Publishers
- Waters CM (et al) (2014) Stratigraphical Bias in the Antropocene London Geological Society
- Weiner D (1988) "The Changing face of Soviet Conservation" in Woster

- D (ed) The Ends of the Earth, Cambridge University Press
- Ytterstad A (2014) "Good Sense on Global Warming", *International Socialism* No. 144, p141-164
- Zalasiewicz, J., Waters, C. N., Williams, M., Barnosky, A. D., Cearreta, A., Crutzen, P., ... & Haff, P. K. (2015). When did the Anthropocene begin? A mid-twentieth century boundary level is stratigraphically optimal. *Quaternary International*, 383, 196-203.