

Climate Change, Sustainable Development and Globalisation

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Abstract—*The issue of sustainable development, preservation of Bio-diversity and environment has already occupied the centre-stage of development discourse today all over the globe. As the natural resources that provided the material basis of industrialization begin to run out, the effects on productivity, environment, and climate and above all on human civilisation are going to be decisive and catastrophic. The 21st century will most likely be one that is climate compromised and energy starved. Climate change is a global problem and needs a global solution through international cooperation and rules. But each country is approaching the problem through a national perspective. Global leaders in international forums for sustainable development and environment make big commitments but practice little. This paper tries to understand the issue of environmental disaster from political economy perspective. The mad drive to capital accumulation today under a neo-liberal capitalist development paradigm which is popularly known as globalisation is disrupting the planetary metabolism at cumulatively higher scales, threatening irreversible catastrophic impacts for countless species, including human species. The environmental and social dialectic needs to be understood to address this issue that confront human civilisation today. Marx's triadic scheme: - metabolism of nature, social metabolism and metabolic rift, can be used as an effective tool to address many of pressing ecological challenges of our times. The argument in the paper is largely based on this tool so that an effective model can be developed to save nature and to achieve sustainable development. Neo-liberal Globalisation and Sustainable development are contradictory to each other in their objectives. An alternative has to come in if civilisation is to sustain.*

Keywords: *Sustainable development, Globalisation, Environment, Political Economy, Metabolic Rift.*

The history of man's effort to subjugate nature is also the history of man's subjection of man---Horkheimer

The biggest question in today's development discourse is sustainable growth and the issue of environment. The problem is multidimensional and complex. As the resources that provided the material basis of industrialisation begin to run out, the effects on productivity, environment, and climate are going to be decisive and catastrophic. The 21st century will most likely be one that is climate compromised and energy

starved. The Swedish chemist and Nobel laureate Svante Arrhenius developed the work on Greenhouse effect in 1896 which still remains the basis for contemporary climate change research. He referred to it as the emptying of coal mines into the atmosphere. As atmospheric carbon dioxide concentrations increase exponentially, climate effects are looming as additional limits to growth, and indeed, a planetary emergency. Emissions cannot cross 1 trillion additional tons of carbon dioxide into the atmosphere to keep the global temperature to the limit to 2 degree centigrade or less. Emissions stood at more than 601 billion tons in mid-June 2016. A 2.7% annual reduction in emissions is required to stay below 2 degree centigrade global temperature. But carbon dioxide concentrations continue to increase. Despite these dire warnings, global leaders could reach only the most tepid agreement in Paris climate meetings, while professing commitments to sustainability. Climate change could have a devastating impact on food security around the world. By 2050, production of rice and wheat, two of the most farmed crops worldwide could decrease by 8% and 32% respectively and the risk of food insecurity could increase by up to 20% (Katie Dupere: 2016) More frequent and intense climate change will worsen food insecurity and threaten the livelihoods of millions of people. Impacts of climate change on environment may lead to breakdown of reliable food system for communities around the globe. About 80% of world's food insecure people rely on agriculture for their livelihood. People who produce food like peasants and fishermen are worst hit by climate change. Climate change is a global problem and needs a global solution through international cooperation and rules. But each country is approaching the problem through a national perspective.

Species become extinct due to what may be viewed as natural reasons that are external to the species. These occur in nature periodically due to circumstances beyond the control of the members of the species. In these cases of natural extinction on a geological scale, nothing much can be done in the long run. Factors like nuclear disaster, environmental destruction on a gigantic scale, massive poverty and hunger etc. may be

responsible for the extinct of human species. The man-made environmental degradation has accelerated the process of extinction of species on earth in modern times. 'We are now changing the climate, very, very rapidly, by geological standards. We are changing the chemistry of all the oceans. We are changing the surface of the planet. We cut down the forests; we plant monoculture agriculture, which is not good for a lot of species. We are overfishing. The list goes on and on.' (Drake, 2015) None other than the human species have the ability and intelligence to change the chemistry of the planet or pollute much of the water, not to talk of the intellect to create weapons of mass destruction. This is cold and calculated savagery. (Chomsky: 2003) And this is represented by the US hegemony. To understand the complexities of climate change and environmental disaster we have to analyse it from the context of its political economy.

Modern neo-liberal capitalist development ignored natural limits to economic growth and thus ecological constraints. The idea of greening of capitalism is deceptive and self-contradictory. Capitalist ecological modernisation sees solution of environmental problem through technological innovation and market mechanism. This is considered as compatible with limitless economic growth and capital accumulation. There is no more a phenomena called pure nature untouched by human hands and human society, nor is there any pure realm of society free from those dire natural-material consequences of human actions. The mad drive to capital accumulation today under a neo-liberal capitalist development paradigm is disrupting the planetary metabolism at cumulatively higher scales, threatening irreversible, catastrophic impacts for countless species, including our own. It is in the realisation of this ecological and social dialectic and in the development of a meaningful praxis to address it, that Marx's analysis has proven indispensable. The capitalist system was 'overloading these self-regulating ecosystems and stretching them to a point at which they could no longer cope.' (Peter Dickens: 1992)

Marx's triadic scheme-metabolism of nature, social metabolism and metabolic rift, can be used as an effective tool to address many of pressing ecological challenges of our times. In early 19 the century physiologists introduced the concept of metabolism to examine the bio-chemical processes between a cell and its surroundings, as well as the interactions and exchanges between an organism and the bio-physical world, The German Chemist Justus Von Leibig helped generalise the concept metabolism, using it to study the exchange of nutrients between Earth and human. He explained that soil required specific nutrients, such as nitrogen, phosphorous and potassium to produce vegetation. As plants grew, they absorbed soil nutrients. To maintain the fertility of the soil, these nutrients had to be recycled back to the land. Marx incorporated the concept of metabolism into his critique of political economy, explaining that he used the word to denote, 'the natural process of production as the material exchange between man and nature'. He recognised that

humans are dependent on nature and 'can create nothing without it'. Human society exists within the earthly metabolism, continually interacting with its external natural environment in the production of goods, services and needs. As a result the social metabolism operates within the larger universal metabolism. Under capitalist commodity production, this relationship takes on such an alienated form that it generates ecological crisis, manifesting as a rift in the metabolism between society and nature. The natural boundary to human production can only retreat, it can never fully disappear. Marxian metabolic analysis recognises that humans and the rest of nature are in constant interaction, resulting in reciprocal influences, consequences dependencies. These processes emerge within a relational, thermodynamic, whole, the universal metabolism of nature. Humans transform nature through production.

Each mode of production generates a distinct social metabolism order that influences the interchange and interpenetration of society and ecological system. The social metabolic order of capital, for example, is expressed as a unique historical system of socio-ecological relations developed within a capitalist mode of social organisation. Human social system exchange with, work within, and draw on ecological system, in the process of producing and maintaining life and socio-cultural conditions. Yet within the social metabolic order of capital, this process materialises in a manner unlike other previous ecological system. The practical activities of life are shaped by the expansion and accumulation of capital. In their pursuit of profit- capitalists are driven to accumulate even more capital, and this becomes both their subjective goal and the motor force of the entire economic system. (Paul Sweezy: 2004) The compulsion to accumulate leads to continuous cycles of creative destruction and destructive creation, as novel productive and distributive methods are developed and exploitable resources expanded to power industry and manufacture commodities. The needs of capital are imposed on nature, increasing the demands placed on ecological system and the production of wastes. Marx in Capital suggests that new agricultural practices, including the application of industrial power, increased the scales of operations, transforming and intensifying the social metabolism while exacerbating the depletion of the soil nutrients. ((Marx: Capital-1) As a result large scale capitalist agriculture progressively 'disturbs the metabolic interaction between man and earth. Marx-Capital-1). It created a metabolic rift in the soil nutrient cycle, robbing the soil and ruining the more long-lasting sources of that fertility. (Marx: Capital-1) The metabolic rift is at the crux of Marx's ecological critique of capitalism, denoting the disjunction between the social system and the rest of the nature.(Del Weston:2014)

Social metabolism of capitalism as a global system has created specific environmental problems in the modern era by transgressing the universal metabolism of nature. The intensification of the social metabolism demands more energy

and raw materials, generating an array of ecological contradictions and rifts.(Paul Berkett:2006)Other analysts consider how, as capitalism confronts environmental problems or obstacles-such as shortage or exhaustion of particular natural resources-it pursues a series of shifts and technological fixes to maintain its expansion. In this way, environmental problems are addressed by incorporating new resources into the production process, changing the location of production, or developing new technologies to increase efficiency. Yet far from mending ecological rifts, such shifts often simply create new cumulative problem, generating additional disruptions on a larger scale. (Brett Clark: 2008) The issue of environment and sustainability in the neo-liberal capitalist development discourse is an illusion. If sustainability is considered as living within nature's limits, then it must also mean a consistent decline in production, consumption, carbon emission and fossil fuel use. And by this the present habitable planet can be preserved for future. But for the majority of the rich nations of the North and for the elites of the south, capital accumulation must be sustained instead of the planet and its environment. This is the inherent logic of the capitalist system which, as Marx said, is based on the process of self-expanding value, M-C-M (money-commodity-money). Thus a non-growing capitalism is a contradiction in terms. It would be society deeply mired in perpetual depression, unemployment, and class conflict. (Kiltgaard: 2016)This contradiction cannot be resolved in a neo-liberal capitalist system. A system already overrunning its limits cannot achieve sustainability. There is a contradiction between the sustainability of the capital accumulation and the sustainability of the environment. The advocates of the capitalist class argue that this contradiction can be solved by a combination of entrepreneurial innovation, technological change and resource substitutability. But this approach lacks a fundamental understanding of the dynamics of neo-liberal capitalism for which it is unable to find a solution to the problem of environmental disaster as well as of environmental despair of our times. Paul Sweezy attributed the environmental degradation not only due to fossil-fuel consumption or industrial chemicals, but also to the capitalist system itself. Private profit and accumulation is the sole objective of the capitalist system which neglects other objectives like environmental protection. Some believe that environmental movements will force capitalism to protect environment. These movements have positive impacts, but they are only limited to reforms that cannot threaten the capitalist class. What is needed is a system based on the fair distribution of use values, decent work, and production and consumption levels that remain within nature's bio-physical limits, a system based on the human need, not greed.(Paul Sweezy:2004) But this is not possible under the neo-liberal capitalist system.

References

- [1] Brett Clark and Richard York, *Rifts and Shifts*, Monthly Review 60, No6, Nov, New York, 2008
- [2] Chomsky Noam, *Hegemony or Survival*, Metropolitan Books, New York, 2003
- [3] Del Watson, *The political Economy of Global Warming*, New York: Routledge, 2014
- [4] Drake Nadia, *Will humans survive the great sixth extinction?* National Geographic, 23, June.2016
- [5] Dupere, Katie: www.mashable.com,16.10.16.
- [6] Horkheimer Max, *The Eclipse of Reason*, New York, Continuum, 1974
- [7] Karl Marx, *Capital*, Vol-1, New York, Vintage, 1976
- [8] Kiltgaard, K.A, *Hydrocarbons and the illusion of sustainability*, Analytical Monthly Review, July-August, 2016, vol.14
- [9] Kiltgaard, K.A, *Analytical Monthly Review*, July-Aug, Vol-14, 2016
- [10] Paul Berkett, *Marxism and Ecological Economics*, Leiden: Brill, 2006
- [11] Paul Sweezy, *Capitalism and Environment*, Monthly Review 56, no5, October, 2004
- [12] Paul Sweezy, *Capitalism and Environment*, Monthly Review 56, no5, October, 2004
- [13] Peter Dickens, *Society and Nature, Towards a Green Social Theory*, Philadelphia: Temple University Press, 1992.