UNDERSTANDING NATURE IN THE AGE OF THE ANTHROPOCENE: A CONCEPTUAL REVIEW

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Abstract: There is now a global consensus amongst the scientific community that the anthropogenic causes of climate change are shaping the planet; it is widely believed that earth has entered a new geological epoch called the Anthropocene- the age of man. The Anthropocene marks the end of nature and Man's ascendance as the most powerful geological force. The concept of Anthropocene has garnered widespread interest across disciplines as a new framing for the Man-Nature relationship and an effective means of highlighting the scale and urgency of the present ecological crisis. It challenges the old definitions of Nature, whether it is the providential view of nature in the prehistoric times, where heads of state drew divine authority from nature, or the utilitarianism of the industrial age, which positioned the taming of nature at the heart of nation building or the ecological imperialism which formed the basis of the colonial empire. It has also been criticised for its Eurocentric conception as well as its universalism, which imagines mankind as a collective, overlooking the asymmetrical balance of power in the world, historical injustices like the colonization or the widespread inequality across the world.

This paper is a conceptual study of the Anthropocene. It explores the history of this idea which is shaping our modern discourse on Nature. It will examine the various debates and differences that are shaping and informing this discourse. It will analyse the implication of this epochal shift on the wider politics and culture of present times. Finally, It will analyse the implication of this age of man on the decolonized world, which will be most affected by the onset of this new epoch.

Keywords: Nature, Anthropocene, Climate Change, Environmental Politics, Post colonialism

Introduction: Climate change is a challenge that poses a planetary threat, to species sustainability, to human adaptive capacities and to governance and decision making. Coastal subsidence, warming ocean temperatures, extreme weather events and rising sea levels have forced us to think about ecology from a fresh, and more urgent perspective. In the last two decades, the debate surrounding climate change has moved away from the question- is climate change happening? The world is now confronting, what Parenti (2012) describes as the main strategies by which human civilization must confront the effects of climate change. Although the last a few decades have witnessed an increased interest in the ecological issues, both within political as well as cultural domain, yet very less has been achieved in concrete terms on the ground.

The Giddens's Paradox posits that, *"Since the dangers posed by global warming aren't tangible, immediate or visible, many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until they become visible and acute before being stirred to serious action will, by definition, be too late* (2009:12)." It is precisely this lack of ground level perception that has hindered any concrete progress in the environmental politics in the three decades. The failure to imagine the consequences of mankind's rampant consumption and exploitation of nature, which is rooted in the Cartesian distinction between Man and Nature, wherein the latter was assumed to be at the perennial service of the former. These providential and utilitarian framings of nature, which facilitated the unchecked exploitation of natural resources, still dominates the commonly held beliefs about what actually constitutes "Nature". Although the environmental consciousness in the twentieth century challenged this view of Nature and prescribed conservation and later mitigation and justice based alternatives, the failure to breakdown the distinction between man and nature has meant that the world views the ecological crisis as distinct from humanity, as a thing in itself. This failure to acknowledge that the invention of nature is as recent as the invention of capitalism has meant that the solution to our current predicament are being sought through the

palliative measures rather than concrete action. The continuing failure of the climate change negotiations and the unflinching faith in the market solutions to the ecological problem are case in point of this paralysis. The anticipation of a catastrophe is shaping the world and humanity has failed to answer the call (Beck 2009). It is in this context that the concept of the Anthropocene becomes a critical breaking point in the green political thought. In 2001, Paul Crutzen, a Nobel prize winning chemist coined the term, Anthropocene- The age of Man, to refer to the epochal shift in the geological history of the planet. The Anthropocene era, he argued, is the new epoch that the planet has entered following the Holocene era, wherein Nature has lost its agency as man claims his position as the new geological force, shaping every geological process on the planet (Chakrabarty 2009). It was a radical claim, rooted a century of thought which emphasized on the role of humans in bringing about the ecological crisis. This has far-reaching implications for a world, which faces the challenges of extreme weather events, erratic wind cycles, rampant inequality, climate change denial, transnational resources conflicts, and pandemics. Anthropocene proclaims the end of Nature, as it has been conceived for centuries, and attempts to break down the Cartesian divide between man and nature itself. It is also discourse steeped in the Malthusian view of the world, where metaphors of boundaries and limits regain importance and urgent, authoritative action becomes an inevitable priority as the ecological catastrophe is not a futuristic scenario anymore, rather we are living through it. The ecological crisis is shaping our world for better or for worse.

The history of Anthropocene: The Anthropocene is a term that emerged out of the discipline of geological sciences, it refers to a stratigraphic designation in the geological scale of the planet. The term was coined in 2000 by atmospheric chemist and Nobel laureate Paul J. Crutzen to highlight the role of "human activities on earth and atmosphere, and at all, including global, scales" (2006, 17). It follows the previous Holocene epoch, which was dated, after a proposal by Sir Charles Lyell in 1833, to 11,700 BCE, which also marked the first evidence of agriculture. The stratigraphic commission is yet to accept this epochal shift officially, yet the term has generated a tremendous interest in the academic community across disciplines. The periodization of anthropocene itself has become a bone of contention among scientists and humanities scholars. The Anthropocene has been variously dated, ranging from the invention of the modern steam engine, which marked the birth of industrialisation, to the dawn of nuclear age in the mid twentieth century and most interestingly to the European colonization of Americas beginning in 1492 (Morton 2013; Lewis & Maslin 2015). What makes Anthropocene, or the age of Man, particularly interesting, apart from the unprecedented spike in the extraordinary weather events, is that the term itself questions the very basis of our understanding of what constitutes nature. Once the Cartesian logic of distinction between Nature and Man is dismantled, it opens new possibilities for understanding humanity's role in nature. It also marks the end to Nature, as an entity, or wilderness in general, and highlights the proposition that what constitutes the ecological is inherently political. Swyngedouw (2011) argues that, "there is no Nature out there that needs or requires salvation in name of either Nature itself or a generic Humanity. There is nothing foundational in Nature that needs, demands, or requires sustaining."

Framing the Anthropocene: The framing matters when it comes to understanding the fundamental proposition of Anthropocene. It projects two contrasting images of the future and offers two vastly different solutions to our present condition. Once the proposition is accepted that the nature as we have come to define is in fact dead and Man is the new geological force shaping our planet, we are left with two alternate images of our world. In the first, there is a celebration of this new event, a 'good Anthropocene' and the other conjures up dystopia for humanity, a 'bad Anthropocene', an imminent catastrophe.

The Planetary Boundaries Approach: "Our proposed climate boundary is that human changes to atmospheric CO_2 should not drive its concentration beyond 350 parts per million by volume, and that radiative forcing—the change in the energy balance at the Earth's surface —should not exceed 1 watt per square meter above preindustrial levels. Transgressing these boundaries could lead to the melting of ice sheets, rising sea level, abrupt shifts in forest and agricultural land, and increasing intensity and frequency of extreme events like floods, wildfires, and heat waves." (Rockstrom et. Al. 2011)

Planetary boundaries is a concept of nine Earth system processes which have boundaries proposed 2009 by a group of Earth system and environmental scientists led by Johan Rockström and Will Steffen. This approach argues for, "a safe operating space for humanity with respect to the functioning of the Earth System." (Rockstrom 2009). By boundary, it is meant that all geological processes on earth have an upper limit that should not be breached in order to prevent the 1.5 degrees rise in the global temperatures. The nine areas that constitutes this planetary boundary are Climate change, Biodiversity loss, excess Nitrogen and phosphorus production, and stratospheric ozone depletion, and ocean acidification, global consumption of freshwater, change in land use for agriculture, air pollution and chemical pollution.

This approach to anthropocene focuses on two fundamental issues- the universality of the problem and the urgency of the problem. This approach to Anthropocene highlights the scale of the problem and prescribes an immediate and global response. It criticises the failure of political processes to reach a consensus and instead lays faith in technology to solve the crisis. It is often criticised by the humanities scholars for its euro centrism and hegemonic tendencies as it focusses on the Universalist conception of the world and only offers a technocratic solution to the problem that is much more entrenched and localised. Within the Natural Sciences also it has been criticised as a pop cultural phenomenon (Zalasiewisz et al. 2011) and scientifically unverifiable so far. Finney and Edwards point out that, "there is a fundamental difference between the Anthropocene and other chronostratigraphic units established by the ICS, and that in being encouraged to adopt the Anthropocene, the ICS is being asked to make a political statement, namely to raise awareness of contemporary human impacts on the Earth system, and thereby potentially encourage a planetary management mindset."

Anthropocene: Cultural Perspectives: The natural sciences may have been the origin of this problem, it has caught the imagination of popular media as well as the humanities. It appeared in nearly 200 peer-reviewed articles, and the IUGS convened a group of scholars to decide by 2016 whether to officially declare that the Holocene is over and the Anthropocene has begun. The two images of Anthropocene have led to two different articulations of the concept.

The Anthropocene posits two contentious questions- the question of periodization and the question of terminology. The question of periodization has a particular importance from the perspective of postcolonial states living on the margins of the developed world. Whether the date of commencement of this new epoch is the invention of steam engine or the birth of agriculture holds tremendous importance to those who argue for the historical justice when it comes to the issue of Ecology. The age of industrialism or the beginning of colonization by European states marked a period of mass exploitation on a global scale, the aftermath of which still reels from its dark consequences. Therefore any earlier date tends to shift this blame away from the states that benefited from this unchecked exploitation and instead the responsibility is shifted on to a vague and patchy concept called the "Universal We" (Chaturvedi et al. 2015). This universalism is also the basis to the planetary boundaries approach and other technocratic approaches to solving the crisis. The second debate is based on the term Anthropocene itself. The emergence of "Anthropos" meaning Man has been an epochal shift in our understanding of Man-Nature relationships, but a counter-perspective where critics argue that the arrival of the Anthropocene has been brought about by a range of socio-economic processes, particularly capitalism, and therefore it is not fair to use the term 'Man' generically, as it overlooks the fact that only handful of groups dominated this march to economic utopia. This argument has led to a range of alternative terminology, which can capture the true picture of all current condition. Jason Moore (2017), a historian offers the alternative the "Capitalocene", which links the Climate crisis to the history of capital accumulation. Bonneuil and Fressoz (2016) offer an interesting formulation of the Anthropocene. They focus on the key contributors to the present crisis- carbon (Thermocene), war (Thanatocene), consumption (Phagocene) and progress (Capitalocene). Mike Davis (2000) outlines the intersection between Climate and colonialization: "colonial expansion," he argues, "uncannily syncopated the rhythms of natural disaster and epidemic disease" exacerbating Victorian-era famines in India, China, and Brazil.

A view from the South: Colonialism drastically changed the patterns of resource use on a global scale. Prior to the arrival of the British in India, forest land was a common property resource (Gadgil and Guha, 1992). India's forests management was effectively done through the social institutional structures such as caste and cultural traditions (Gadgil et al, 1993). The birth of Westphalia and nationalism converted nature into territorial landscapes, and that was the birth of classical geopolitics.

As globalization made the world more accessible, nature became a globalized entity. The modern man began to imagine nature on a planetary scale, a 'Blue Marble', after the famous image of NASA's Apollo Mission in 1967. Peter *Sloterdijk,* a German Philosopher, in a recent interaction, argued that this Universal conception of mankind is problematic because such a monolith called 'humanity' comes with no real postal address. It seems to convey no awareness of the past and dismisses any claims for historical responsibility. It also fails to address the core issues of carbon based industrialism, unchecked consumerism, and the geopolitics of technology. The Anthropocene discourse, which has its origins in the scientific disciplines, only manages to offer a deeply depoliticised and technocratic worldview to critique the weaknesses and failures of our current political order. It attempts to push forth the ideas of urgency and collective action on a global scale, without addressing the problem of inequity and the asymmetric balance of power in the international world order.

The decolonised world, therefore, observes this universality with suspicion, as such a discourse appears to overlook their long standing fight for justice and usurp their victimhood status. Any form of collective action is possible when all parties are equally responsible, equally vulnerable and equally equipped to handle the problem. The problem of inequity and vulnerability are therefore critical to addressing the question of the future of localised societies around the globe. Amitav Ghosh, in his recent book titled 'the great derangement', focuses primarily on the unequal impact of anthropogenic climate change on postcolonial states. He traces the histories of colonial states across Asia, where the scourge of colonialism ravaged large swathes of communities, leaving them vulnerable to the vagaries off Nature like drought and famine and floods (Ghosh 2016). Chaturvedi and Doyle (2010) argue that, "emerging geopolitical as well as geo-economic discourses on climate change tend to (re)territorialize a whole gamut of issues at stake," and in the process strips the invisible poor of any semblance of power. The challenge, therefore, is to think about the future of societies from the margins of the developed world and problematize the concept of Anthropocene.

Conclusion: The idea of Anthropocene or the age of Man is an important addition to environmental discourse. It provokes an interesting shift in the basic understanding about what constitutes the Nature. It boldly proclaims an end to nature, the popularly held concept which has been reduced to wilderness alone. Instead it offers a new framing that attempts to break down the Cartesian divide between Man and Nature. It is a particularly interesting turn, in both Natural as well as physical sciences, because it address the most basic concerns regarding climate change for the present generation- the irreversibility of the phenomenon and mankind's complicity in the process of its making. It is urgent call to action, preferably collective action on a global scale, in face the face of institutional fatigue and lack of political consensus. The planetary level threat, we are told, is an existential one and the resolution rests on this universal epochal consciousness. But it is this universalism that becomes a question that attracts both applaud as well as criticism. Who is this 'Universal Man'? And can he/she be blamed for the entire crisis? What happens to the claims of historic responsibility and the basic asymmetric balance of power in the world order, if one accepts the universalism of the new epoch? Can the old distinctions between the developed North and impoverished, decolonised South can also be broken in the face of this catastrophe? In this age of Man, it is, therefore, important to decolonise the very idea of Anthropocene and view it through the eyes of postcolonial world, which will be the first victim of this tragedy. The Universality of the crisis cannot be overlooked with the range of emerging scientific evidence, but it is also equally important to focus on the localised nature of this tragedy. Therefore, the politics of Anthropocene should be based on equity and justice rather than narrow scepticism, and Malthusian fears of ecological dystopia.

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