

THE NATURAL LAW AND THE PLANETARY BOUNDARIES: A THORETICAL TREATISE IN THE BACKGROUND OF CLIMATE CHANGE

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Abstract: Civil and criminal jurisprudence has a very long history of evolution and can be traced back to treatises such as Manusmriti, or the cannons of Hammurabi. Laws relating to forestry and wildlife conservation can be traced to the celebrated Chanakya Niti. However, the premise to be examined is not the force of the criminal and civil jurisprudence as to how crime against man and his property is to be treated, vis a vis crime against environment wildlife and forestry. Rather, it is a question whether our basic assumption that nature and natural resources are infinite holds good or not. This proposition did hold good until the Industrial revolution at the dawn of 1800 AD. What appeared infinite and unquestionably inexhaustible and hence insignificant in the past history, today becomes a frighteningly alarming and scarce commodity. Some estimates predict we are losing 2.7 to 270 species everyday from the face of the earth. The carbon dioxide levels which were just about 280 ppm in 1800 have reached 400 ppm in April, 2015. The global surface temperature gradient seems to go up from 0.5^o C per 100 year to 0.9^o C per 100 years. Therefore, this brings to question our all time proven criminal and civil jurisprudence which as served us well for several thousand years, but seems to be failing. The foundations of civil liberty, right to property and superiority of the human race all seem to be questionable. According to Sir Edward Coke, law is founded upon artificial reason which is nothing but crafted reason by human effort and human art. Has the time come that we re-look at our own crafted reason and art? Has the time come that we redefine our legal, economic, social and political systems in the light of the new questions that we are facing today? This question has been examined here in a limited scope of Unclassed State Forests (USF).

Key words: Jurisprudence, criminal law, civil rights, forest, wildlife, environment, climate change, carbon foot print, USF

Introducing Planetary Boundaries: The 400 ppm of CO₂ levels in the atmosphere have already been reached (breached) in April, 2015, thanks to our strong urge, as the most intelligent species on this planet, to be “developed” with state of the art life styles and latest technologies to serve us at the push of a button. The atmospheric CO₂ levels for last 5 years from 2013 till now can be seen at Fig No. 1. The CO₂ levels crossed 405 ppm in November, 2016. The current mean annual growth rate in level of CO₂ increase in the atmosphere is ~3.00 ppm, which was ~2 ppm in the previous decade. At this rate we hit the dreaded 450 ppm level in just another 15 years or less depending on how intelligent actually we are as a species. The current rate of temperature rise is 0.9^oC. As per NOAA, “*The average global temperature across land and ocean surface areas for 2016 was 0.94°C (1.69°F) above the 20th century average of 13.9°C (57.0°F)*”. On the other hand if one looks at the human population growth, which is stated to have gone through a severe bottleneck called the Toba Bottleneck¹ about 70000 years ago, when the population was close to extinction at a level of 700 individuals or so, as a genetic study by Zhivotovsky, Rosenberg, Feldman (2003)² indicates, and today stands at 7.5 billion, and is projected to

1 Toba, a dormant volcano, now a lake in Indonesia that had erupted some 75000 years ago and brought ice age that almost wiped the human population (<https://goo.gl/DkB3B7>)

2 Lev A. Zhivotovsky, Noah A. Rosenberg, and Marcus W. Feldman, 2003, Features of Evolution and Expansion of Modern Humans, Inferred from Genomewide Microsatellite Markers, Am. J. Hum. Genet. 72:1171–1186, 2003. The authors conclude that genetic variability in humans is very low, and the population of today has sprung up from a handful of individuals only.

reach 9.5 billion by 2050³, it is by every means phenomenal., almost more than 1 million times than the population at the time of Toba catastrophe. This also amounts to growing at an annual rate of 0.02% since the catastrophe days. The highest growth rates in recent past since 1950 in the world population was 2% in 1965-1970 period. The current annual growth rate is 1.15% which is projected to get dropped to 0.51% per annum in 2045-50 (see Foot Note 3 for details).

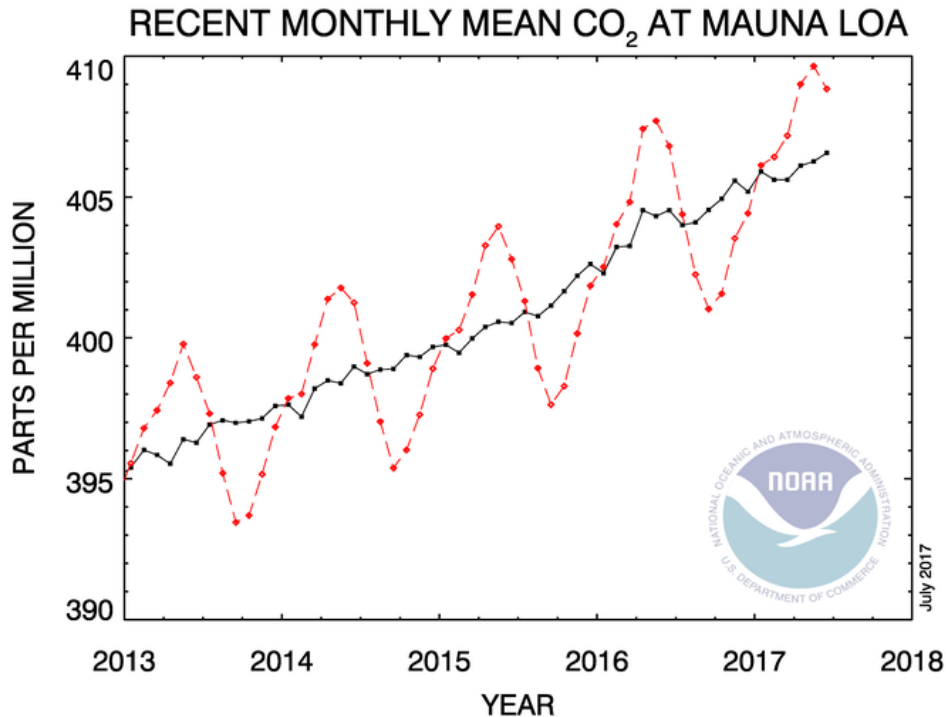


Fig No. 1: CO₂ Trends at Mauna Loa Observatory

While the human population is increasing and may touch 11.20 billion by 2100, the resources that need to sustain such a large population are shrinking rapidly. According to Tim de Chant⁴, if the world population lived like the citizens of USA, we would need 4.1 earths to meet the resources, while a life style of UAE would require 5.4 earths. However, we have only one earth, and we crossed already gotten into overshoot. The first earth overshoot day⁵ fell on 19th December, 1987 and as this article was being written, we reached the earth overshoot day on 2nd August, 2017, consuming almost 1.7 times the earth's resources. While the ecological footprint is a very good way of telling ourselves how fast we are becoming unsustainable, in reality due to immense biotic pressure, loss of forests, ecosystems and habitats, the plant is losing biodiversity in a very big way. The estimates vary from 2.7 to 270 species disappearing everyday from the face of the earth. Mathematical models tell us that 150 species are being lost every day⁶. The plight of large mammals such as elephants, tigers, leopards, rhinoceros, civets is worse than ever before. As the habitats shrink, these animals would find it very hard to survive. Already more than 80% of the world's natural forests have been destroyed, and the consequences of deforestation are catastrophic too⁷. In this 70000 years of long journey, we have had the least understanding about nature and nature's ways. The way bees make wax (a hydrocarbon),

3 <https://esa.un.org/unpd/wup/>

4 <http://www.bbc.com/news/magazine-33133712>

5 https://en.wikipedia.org/wiki/Earth_Overshoot_Day

6 <http://www.bbc.com/news/magazine-17826898>

7 <http://www.nationalgeographic.com/eye/deforestation/effect.html>

spiders make their silk (which is stronger than steel of the same specification), birds navigate several thousand miles without any aid of external compass, and many more phenomena that occur in nature with high precision and periodicity, are in quite contrast the way humans conduct their business which pollutes the environment and creates immense amount of waste (which also includes the anthropogenic CO₂ released in the atmosphere by industrial and other activities). Post the industrial revolution, the economic growth and development has caused considerable damage to the environment. This has led scientists such as Rockstrom et al (2009)⁸ to come up with Planetary Boundaries. They ask the question in the Anthropocene⁹, “What are the non-negotiable planetary preconditions that humanity needs to respect in order to avoid the risk of deleterious or even catastrophic environmental change at continental to global scales?” In the words of the authors, “Boundaries, on the other hand, are human-determined values of the control variable set at a “safe” distance from a dangerous level (for processes without known thresholds at the continental to global scales) or from its global threshold”. The nine planetary boundaries are:

1. Climate Change (350 ppm & energy imbalance¹⁰ of 1 Wm⁻²).
2. Ocean acidification (sustain >80% of the pre-industrial aragonite¹¹ saturation)
3. Stratospheric ozone depletion (<5% of the pre-industrial levels)
4. Atmospheric aerosol loading
5. Biogeo-chemical flows: interference with P and N cycles
6. Global fresh-water use (< 4000 km³ per year)
7. Land system change (less than 15% of the ice free land to be under agriculture)
8. Rate of biodiversity loss (<10 E/MSY¹²)
9. Chemical pollution

These planetary boundaries are very stringent conditions, and would imply even rolling back of several destructive practices of mankind that we take for granted. As already stated, against the planetary boundary of 350 ppm of CO₂, we are already at 405 ppm. Against annual consumption of less than 4000 km³ of water annually, we have already consumed this year more than 6462 km³ of water¹³ till now. The catastrophe of climate change and biodiversity loss can only be described, but the question is are we in a position to roll back the clock? If not, who among us in the past and present should be held responsible for the grim future that awaits us and our progeny?

Aristotle, the Greek philosopher, was probably very correct when he opined “*For man, when perfected, is the best of animals, but, when separated from law and justice, he is the worst of all; since armed injustice is the more dangerous, and he is equipped at birth with the arms of intelligence and with moral qualities which he may use for the worst ends. Wherefore, if he have not virtue, he is the most unholy and the most savage of animals, and the most full of lust and gluttony. But justice is the bond of men in states, and the administration of justice, which is the determination of what is just, is the*

8 Rockstrom et al, 2009, Planetary Boundaries: Exploring the Safe Operating Space for Humanity, Ecology and Society 14(2): 32.

9 Anthropocene is a new era equivalent to geological timescale starting from the industrial revolution (a million years squeezed in just 200 years!)

10 The earth system is thermodynamically a closed system, meaning it accepts only energy [from the sun], and no matter [discount the space debris]. Therefore, it must emit all the energy that it receives from the sun, and if it fails to do so, meaning accumulation of energy would make the planet hotter and hotter, while release of more energy than received would make the planet to cool. According to NASA, the earth is already accumulating about 0.6 Wm⁻² of energy, and is getting hotter by the day.

11 Aragonite is a CaCO₃ mineral which is important for corals and other species growth in the sea water. Corals grow at normal saturation of the aragonite mineral. However, under conditions of oceanic acidification, the undersaturation of the mineral occurs which hampers growth of corals.

12 No of species going extinct (E) per Million Species per year (MSY)

13 <http://www.worldometers.info/water/>

principle of order in political society". Man has been at his worst all this 70000 years of his journey, but can we say that, going by what Aristotle opined, a journey devoid of law and justice? This brings us to the core of a subject which determines the guilty and prescribes appropriate punishment – the science of jurisprudence.

Ius Naturae: Ius nature (or jus naturale or lex naturalis) natural law derived from Aristotelian distinction of natural and conventional justice, and as propounded by Cicero, the Roman philosopher, is largely seen as progenitor of all the positive laws. The law of nature, as it is also often called, "implies the conception of a rational design in the universe, which is manifested, though never perfectly realized, in the material world"¹⁴. The natural law which has been kept just below the Law of God [a quote from Cicero "*True law is right reason in agreement with nature; it is of universal application, unchanging and everlasting; it summons to duty by its commands, and averts wrongdoing by its prohibitions...It is a sin to try to alter this law, nor is it allowable to attempt to repeal any part of it, and it is impossible to abolish it entirely. We cannot be freed from its obligations by senate or people, and we need not look outside ourselves for an expounder and interpreter of it. And there will not be different laws at Rome and at Athens, or different laws now and in the future, but one eternal and unchangeable law will be valid for all nations and all times, and there will be one master and ruler, that is, God, over us, for he is the author of this law, its promulgator and its enforcing judge*"], which reigns supreme, by the thinkers of the yore has evolved through the ancient civilizations, medieval ages and today taken the shape of "natural Justice". According to Pollock, "Modern aberrations have led to a widespread belief that the Law of Nature is only a cloak for arbitrary dogmas or fancies". According to Justice KN Saikia¹⁵, "Aristotle finds man as part and master of nature. Man dominates nature by his spirit which enables him to will freely, to distinguish between good and evil. This led to the natural law philosophy of Kant as of Hegel; of John Stuart Mill, Herbert Spencer as of Del Vecchio and Kohler". Constable (1954)¹⁶ puts the core issue of the Law of Nature as "In more positive terms, natural law may be described as those rules of conduct determinable from man's nature and position, which are willed by the Creator and which lead to goodness". He demolishes several myths and objection to the Law of Nature and opines that good law elicits goodness in men, and thus we may know the true interpreters of the Will of God. Sir Edward Coke¹⁷ talked of "artificial reason", that is, "crafted reason", as "reason that is brought into being not by nature but by human effort and human art", and that Reason is the life of Law, and "no man (out of his own private reason) ought to be wiser than the law, which is the perfection of reason the reason of the law is not the natural reason of any person but rather the artificial reason of the law itself" and "Law is nothing else but reason which is to be understood [as] an artificial perfection of reason".

However, there remains a criticism unanswered, if the Law of Nature is indeed the Will of God, does God will that men be doomed to catastrophe of climate change and vagaries of biodiversity loss? Does God will that man be supreme and deplete the entire planet created by him? Does God will that the future generations of men shall be cast on a parched earth devoid of greenery and any other species? While many such similar sounding questions could be raised, let us now turn to answer some of these questions by first understanding the modus operandi of some of the law givers in the past. In doing so,

14 Frederick Pollock, 1901, The History of the Law of Nature: A Preliminary Study, Columbia Law Review, Vol. 1, No. 1 (Jan., 1901), pp. 11-32

15 Former Judge Supreme Court of India & Director General National Judicial Academy, 1996, The Individual Sociology and Philosophy of Law, JTRI Article No. 64.

16 George W. Constable, 1954, What Does Natural Law Jurisprudence Offer?, Catholic University Law Review Volume 4 | Issue 1 Article 1, 1954

17 Sir Edward Coke (1552-1634), the Chief Justice of England who declared that the King was not above law, and any law made by the Parliament was void if in violation of "common right and reason". (https://en.wikipedia.org/wiki/Edward_Coke)

we shall briefly dwell upon the ancient laws forests and thereafter on Philosophy of Law of Kant.

The Law Givers of the Past: Talking of nature, the most visible images that come to one's mind are forests, trees and wildlife. The question that is attempted to be answered here is: Did the law givers of the past bother about forests and wildlife? Hammurabi's Code 50-65 exclusively deal with agriculture, gardening, water management, dams and tree felling. Ancient romans had laws that covered gardens, woods, pastures and levied pasture fees. Kautilya's Arthshashtra talked of maintaining wild forests and production forestry, has elaborate retinue of forest guards and other officials to deal with and manage forests, and killing of elephants was dealt with death penalty. King Hywel Dda (880-950) of England made a law that declared the punishment for killing a Greyhound the same as for killing a person - execution! John Manwood (1592) compiled the Treatise on Forest Laws that said all beasts and fowls belonged to the King, and that Forests to be "preserved to grow again for covert of the beasts"; the Chief Justice of Forest had "absolute authority to determine all offenses either in vert or venison" and talked of common Pasture/forest and described a system of raising "Hue & cry of the forest". While a lot more can be written about the Chief Justice of Eyre (a system akin to what is the institution of the National Green Tribunal in modern India today), it suffices to say that England had very elaborate laws of the forests (and one of the oldest written law in the world!). However, it would be pertinent to mention that as the King tightened his grip on the forests of the country, and brought more and more land under control of the State in the name of forest, a silent revolution started to brew that resulted in the signing of the Magna Carta, a charter that allowed more freedom and better access to the forest resources.

Immanuel Kant and the Universal Law of Right: The premise of this study is primarily built around the notion of the Universal law of Right and the Right of Land as propounded by Immanuel Kant (1724-1804), the German philosopher in his treatise on "Philosophy of Law-An Exposition of the Fundamental Principles Of **Jurisprudence As the Science of Right**" in 1787. Kant defines right as "*Every Action is right which in itself, or in the maxim on which it proceeds, is such that it can co-exist along with the Freedom of the Will of each and all in action, according to a universal Law*". Then he defines the the Universal Law of Right: "*Act externally in such a manner that the free exercise of thy Will may be able to co-exist with the Freedom of all others, according to a universal Law*". Based on the Universal Law of Right, Kant takes a logical and very reasoned stand on right to land, which is marvelous. He opines, "*For, had the surface of the earth been an infinite plain, men could have been so dispersed upon it that they might not have come into any necessary communion with each other, and a state of social Community would not have been a necessary consequence of their existence upon the Earth*". However, this is not all, he goes a step further beyond the Aristotelian social animal dogma, "*All men are originally in a common collective possession of the Soil of the whole Earth (Communio fundi originaria), and they have naturally each a Will to use it (lex justii). But on account of the opposition of the free Will of one to that of the other in the sphere of action, which is inevitable by nature, all use of the soil would be prevented did not every will contain at the same time a Law for the regulation of the relation of all Wills in action, according to which a particular possession can be determined to every one upon the common soil. This is the juridical Law (la juridica). But the Distributive Law of the Mine and Thine, as applicable to each individual on the soil, according to the Axiom of External Freedom, cannot proceed otherwise than from a primarily a united Will. It is in this state alone that the united common Will determines what is right, what is rightful, and what is the constitution of Right*".

Kant talks of *Jus Cosmopoliticum* (the Universal Right of Mankind), and opines "*THE rational idea of a universal, peaceful, if not yet friendly, Union of all the Nations upon the earth that may come into active relations with each other, is a juridical Principle, as distinguished from philanthropic or ethical*

principles. Nature has enclosed them altogether within definite boundaries, in virtue of the spherical form of their abode as a globus terraqueus ; and the possession of the soil upon which an inhabitant of the earth may live, can only be regarded as possession of a part of a, limited whole, and consequently as a part to which every one has originally a Right. Hence all nations originally hold a community of the soil, but not a juridical community of possession (communio), nor consequently of the use or proprietorship of the soil, but only of a possible physical intercourse (commercium,) by means of it. In other words, they are placed in such thoroughgoing relations of each to all the rest, that they may claim to enter into intercourse with one another, and they have a right to make an attempt in this direction, while a foreign nation would not be entitled to treat them on this account as enemies. This Right, in so far as it relates to a possible Union of all Nations, in respect of certain laws universally regulating their intercourse with each other, may be called 'Cosmopolitical Right' (jus cosmopoliticum)”

Why Kant had to give such an elaborate treatment to the issue of land (soil) and right to it? Kant acknowledges at the beginning that earth is not infinite. Secondly, Kant denies absolute ownership of land by individuals as it violates the principles of Universal Law of Right. Thirdly, Kant distinguishes between possession, proprietorship and physical interaction with land. Kant also could foresee in 1887, a Union of all Nations (United Nations!) as each nation could only hold land partly, but also had rights of intercourse with other parts of land not in his actual possession. Kant's treatise of 1887 on land clearly brings out Law of Nature in all matters of land at individual, community, national and global levels. The conclusion can be drawn, man is not the absolute owner of land, but only the State is. Scarce resource such as land cannot be dealt with on mere principles of right but only Universal Law of Right. The principle of *Communio fundi originaria* ensures that the earth belongs to humanity. This deliberation leads us to the next question in the paragraph to follow.

Whither Communio fundi originaria?: While Kant has been so candid in framing the rights over land, why was that the laws that we have today are not very careful and mindful of the intercourse that we have with soil, land and earth? Activities such as mining, agriculture and cash crops beyond the planetary boundaries, high intensity of harmful chemicals in agricultural practices, conversion of forest land for non forestry purposes, change of land use to non sustainable purposes, breaking top soil to make bricks, cutting, settling and encroaching upon the habitat of the other companion species of the planet, pushing other species to the brink of extinction are some of the modes of interaction with mother earth (which cross beyond the planetary boundaries) that now threaten the very survival of human race, nay the entire planet. Immanuel Kant theorized when the CO₂ in the atmosphere was just about 280 ppm, and nature seemed to be a cornucopia of never ending resources. He could surely not have dreamed of ozone holes acid rains and smog. How would have Kant theorized had he seen the devastating consequences of anthropocene (which had just began when he was theorizing!). A philosopher who could just churn out volumes on land and right to land only on one principle that the earth is finite, would have designed and laid down laws that would ensure that the human intercourse with nature and the earth system remained very well within the planetary boundaries. The modern law makers of India, however, have done well to frame acts such as the Indian Forest Act, 1927, Wildlife (Protection) Act, 1972, Forest Conservation Act, 1980, Environmental Protection Act, 1980, Biological Diversity Act, 2002 to mention a few.

The Hon'ble Supreme Court of India in its order Dt. 12th December, 1996 in the WPC 202 of 1995 defined “forest” from a perspective that is so reminiscent of the law of nature and the philosophy of Kant just discussed. The Order in clear terms was an epoch making statement of purpose that has gone a long way in giving reprieve to the forests that were merciless being cut either because they were not notified or were in private hands. The Oder defined: "... forest must be understood according to its

dictionary meaning. This description cover all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2(i) of the Forest Conservation Act. The term "forest land", occurring in Section 2, will not only include "forest" as understood in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership. This is how it has to be understood for the purpose of Section 2 of the Act. The provisions enacted in the Forest Conservation Act, 1980 for the conservation of forests and the matters connected therewith must apply clearly to all forests so understood irrespective of the ownership or classification thereof". Thus, after 12.12.1996, all the Unclassed State Forests in the State of Assam get protected under the orders of the Hon'ble Supreme Court. The Section 32 to 34 of the Assam Forest Regulation 1891 deal with the Unclassed State Forests. The Govt. of Assam vide Notification No. 965 Dt. 29-03-1932 framed the Unclassed State Forests Rules under Section 32(a) notifying Reserved Trees and and the Rules governing the Unclassed State Forests in the State. Some of the most common Reserved Trees so notified in 1932, the common trees in these tracts are Simul (*Bombax malabaricum*), Amari (*Amoora Rohituka*), Boga Poma (*Chikrassia tabularis*), Poma (*Cedrela toona*), Koroi (*Albizzia procera*), Sida (*Lagerstroemia parviflora*), Ajhar (*Lagerstroemia Flos-Reginae*), Haldu (*Adina cardifolia*), Ahiu (*Vitex peduncularis*), Kuhir (*Bridelia retusa*), Uriam (*Bischofia Javanica*), Gamari (*Gmelina arborea*), Bar (*Ficus elastica*), Sam (*Artocarpus chaplasi*), and Bhelu (*Tetrameles nudiflora*) to mention the most common species. Therefore, if any of the notified Reserved Trees were standing on any land at the disposal of the Govt. prior to 29-12-1932, then that said parcel of land would be deemed to be Unclassed State Forest, and hence would be governed by the statute notified on 29-03-1932 and after, irrespective of whether any of the said Reserved Trees stand there today or not. It is to be noted that USF areas cannot be defined today or whether an area is USF or not cannot be legally debated today, as the fate of the land was sealed on 29-03-1932. **One can only debate whether the land was USF as on 29-03-1932 or not**; and whether it was diverted for non forestry purposes post 12.12.1996 without application of the Forest Conservation Act, 1980, irrespective of the fact whether the area was allotted by the Deputy Commissioner to any individual or entity or not.

Conclusion: The Law of Nature was examined in the light of the climate change and especially the treatise of Immanuel Kant on the Universal Law of Right was seen in terms of its relevance today. While there apparently appears to be some gaps in certain aspects of the nature of intercourse of human beings with the earth system, the Indian law makers seems to have taken adequate steps to articulate the environmental concerns by legislating a slew of acts. At the same time, the Hon'ble Supreme Court has, by defining forests beyond the conventional and legal wisdom has shown a true application of the Law of Nature and theoretics of Immanuel Kant. The unclassified state forests have been taken as an example to demonstrate how the definition of forest as given by the Hon'ble Court can stand as a shield to protect them from further human exploitation.