Chapter Three
GLOBAL CONSUMERIST SOCIETY AND ENVIRONMENTAL SUSTAINABILITY

The global consumerist society revolves around consumption, therefore, issues of environmental sustainability do inevitably to arise. Hence, the global consumerist society is not an unimpeded consumer utopia. Rather, it will dialectically engage with issues of environment, local cultures and distributive justice. It's obvious that all consumption is resource-based. But the question is that whether natural resources can sustain the present high levels of consumption and fulfil the promises it tends to proposition to the new areas. The issues of consumerism are inextricably intertwined with environment. Is the environment or nature to be conceived merely as the provider of resources? The key debate is on the conception of nature in social and political theory and the place man occupies in it.

Hence, there is no objective nature but only various conceptions of it viz., anthropocentric, biocentric and ecocentric. Ulrich Beck emphasised the constructedness of nature, arguing that,

... in the age of battery farms, plants, animal and human genetics, parks, development programmes and the ‘re-naturalizaion’ of towns, one is dealing with variants of an artificial nature: projections of nature, wish-fulfillment natures, nature utopias, all roughly as natural as a big screen advertisement, replete with roaring, turbulent rivers in the urban bustle of Tokyo.¹

Hence, according to Ulrich Beck, “thus, even nature is not nature, but rather a concept, norm, memory, utopia, counter-image.”² Similar, ideas were impressed by Julian Saurin, who pointed out that “the debate over environmental change is in large part a battle in social construction of knowledge and meaning which is sought out in a global arena.”³ At the philosophical level there are three distinct conceptions of nature, viz., anthropocentric, biocentric and ecocentric. Issues of development and their consequent fallout on environment is being largely debated around these three conceptions.

² Ibid., p. 38.
CONCEPT OF NATURE

Nature is yet another term which falls into the category of “essentially contested” concepts. It is well nigh impossible to pin down the meaning of nature. Also, coupled with the meaning of nature is meaning of human. From the earliest views of animism, where nature was seen as having an indwelling spirit, worthy of respect and worship, to the later biblical concept of man as a lord over nature the concept of nature is intertwined with the concept of man. As Raymond Williams has emphasised “what is often being argued ... in the idea of nature is the idea of man.” On the other hand, Peterson notes that “what is often being argued in the idea of “man” is the idea of nature... not only are idea of humanness and of nature wrapped up with each other, but they also shape ethical systems and practices.” Here we will discuss the concept of nature in social thought primarily under three headings of anthropocentric, biocentrism and ecocentrism. Although environmental thought has been divided and sub-divided into a large number of concepts and theories owing to subtle differences between them.

Anthropocentrism

Anthropocentric concepts of nature see man as the centre of the universe. This idea is voiced in the humanist exhortation that man is the measure of all things. When applied to the environment, it emphasises that the environment is a store house of resources. At times, some anthropocentric ideas argue that the raison d'etre of man’s existence lies in conquering and consuming its resources. The most blatant example of this idea was in Christian beliefs and injunctions. This belief has been termed as man’s hubris or arrogance towards nature. The Genesis proclaims that God created man so as to enjoy “dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and over all the earth and over every creeping thing that creepeth upon the earth” (I:26). Further, Genesis enjoins man: “Be fruitful and multiply and replenish the earth and subdue it” (I:28). But this dominance was not to be achieved through affection or benevolent authority, but by threat of destruction and force. As Genesis impresses: “And the fear of you and the dread of you shall be upon every beast of the earth, and upon

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every fowl of the air, upon all that liveth upon the earth and upon all the fishes of the sea: into your hand are they delivered". Also, "every moving thing that liveth shall be meat for you".  

The secular modern philosophy of Bacon and Descartes, carried forward this injunction arguing that one can manipulate nature through the knowledge of universal laws,. But this manipulation, for Bacon, is to be acquired by seduction and charm, not through crude force. This aim will be subserved by gaining of knowledge of its internal working. A similar thought was expressed by Descartes who argued for

a practical philosophy by means of which, knowing the force and the action of fire, water, the stars, heavens, and all the other bodies that environ us, as distinctly as we know the different crafts of our artisans, we can in the same way employ them in all those uses to which they are adapted, and thus render ourselves the masters and possessors of nature.  

This anthropocentrism was carried forward in the empiricist philosophers, and reached its apogee in the claims of Berkeleyan subjective idealism, proclaiming esse est percipi i.e. to be is to be perceived. The overall contribution of modern philosophy has been in giving justification to the exploitation of nature. The predominant influence was Cartesian conceptualisation of cogito man. It resonates with Judaic-Christian conception of man having the divine spark which was termed as soul. But in secular philosophy it is exclusive to human beings; the divine spark metamorphosises into "reason". This reason capability of human beings justifies their practice of exploitation of nature. This was evidently expressed and practiced in the ideology of capitalist-liberalism.

The liberal concept of nature as provider of resources was predominant. Man has a right and even duty to exploit natural resources. In fact it was raison d'être of human

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6 John Passmore, *Man’s Responsibility for Nature: Ecological Problems and Western Traditions*, second edition (London: Duckworth, 1980), p. 6. The various citations have been taken from this book. It discusses in detail how man-nature relationship changed in Christian theological texts. Passmore contests the conclusion of various thinkers who argued that western tradition are to be wholly blamed for plunder of nature. He concludes that "the critics of western civilization are to this extent justified in their historical diagnosis: there is a strong western tradition that man is free to deal with nature as he pleases, since it exist only for his sake. But they are incorrect in tracing this attitude back to Genesis. Genesis, and after it the Old Testament generally, certainly tells man that he is, or has the right to be, master of the earth and all it contains. But at the same time it insists that the world was good before man was created, and that it exists to glorify god rather than to serve man. It is only as a result of Greek influence that Christian theology was led to think of nature as nothing but a system of resources, man’s relationships with which are in no respect subject to moral censure." p. 27.

7 Cited in ibid., p.20.
existence. Also, the test of advancement of civilization was the very rapacious capacity to exploit natural resources. Liberalism view nature as valueless, that could be made valuable only by investing our labour in it. Locke argued that though the earth and its fruits were given to men in common, but they had no communal ownership of property. He argued that by investing one's labour into the object, one extends his personality into it. Locke was one of the foremost exponents of natural rights theory and his natural rights revolved around right to property. The most basic right was "life, liberty and estate". According to George H. Sabine, "frequently, however, he used 'property' where he seems to have meant any right, and since property was the only natural right which he examined at length, it was inevitable that it should stand out as the typical and important right".\(^8\) The Lockeian conception of the natural right to property was the key arch of classical liberalism and laissez faire economy, which justified "exploitation" of nature to make more and more profits. This led to the search for colonies as provider of cheap raw materials and market for finished goods. C.B. Macpherson castigated liberalism, for its conception of "possessive individualism". Possessive individualism conceives "the individual as essentially the proprietor of his own person or capacities, owing nothing to society for them. The individual (is) seen neither as a moral whole, nor as a part of a larger social whole, but as owner of himself... The individual is free in as much he is proprietor of his person and capacities."\(^9\) Thus, the liberal theory of possessive individualism saw nature as having only instrumental value, as a means to provide for human ends.

However, the Lockeian right to property has three conditions. One can take as much as one invests one's labour into it. Secondly, one can take that much which does not get spoiled as "nothing was made by for man to spoil or destroy" and one can appropriate that much which leaves, enough and as good for others. One can argue that the second condition was an incipient consciousness of environmental well-being. But these conditions were applicable to the primitive economy. In the market economy as envisaged by Locke, these conditions were removed one by one. As Macpherson argues, "Locke's astonishing achievement was to base the property right on natural right and

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natural law, and then remove all the natural law limits from the right”.10 In short, classical liberal thinkers like Locke, David Hume and Adam Smith, emphasise nature as a limitless, inert, provider of resources. The whole bourgeois enlightenment and political economy were guided towards advancing productive and extractive power of modern industries. As Susan Leeson has argued:

Lockean thought legitimated virtually endless accumulation of material goods; helped equate the process of accumulation with liberty and the pursuit of happiness, helped implant the idea that with ingenuity man can go beyond the fixed laws of nature, adhering only to whatever temporary laws he establishes himself in the process of pursuing happiness; and helped instil the notion that the ‘commons’ is served through each man’s pursuit of private gain, because there will always be enough for those who are willing to work.11

Hence, they embody what David Ehrenfeld has termed as the “arrogance of humanism”, where the working of the world is analysed under the anthropocentric bias.12 Traditional political theory is concerned with human needs and interests. The various conceptions of justice, equality and liberty cogitate on the issue of human needs and values, while nature is seen as a limiting factor from which humans have to unshackle themselves. According to John Meyer, Western thought has understood the relationship between nature and politics in two forms viz., dualist or derivative.13 The dualist interpretation of Western thought believe that nature and politics have been completely bifurcated. This is seen as a logical step in traditional centrist thought as believed in androcentrism, eurocentrism and anthropocentrism. This break between nature and politics is sometimes traced to the seventeenth century social contract philosophy. Contractarian philosophers emphasised on the abstract political agreements which were ecologically indifferent. At other times, this dualism is argued to be located in

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10 Ibid., p. 199.
13 John M. Meyer, Political Nature: Environmentalism and The Interpretation of Western Thought (Cambridge, 2001). Meyer argues that literature on nature-politics interrelationship in western theory revolves around “two mutually exclusive yet equally misleading ways” p.2. Dualist interpretation stresses on divorce between nature and politics as reflected in often stressed criticism of anthropocentrism. While derivative interpretation stresses on derivation of normative principles from the conception of nature. As stressed in conceptions of primitivism and mysticism. Meyer, instead, presses for their mutual constitution of nature and politics which stresses on “taking into account the interactions between our conceptions of nature and politics.” p.2.
Christianity or ancient Greek Western philosophy. Derivative interpretations seek to
derive normative guidance from conceptions of nature. Instead of these two
interpretations, Meyer focuses on appreciation of the concept of nature and politics and
how they affect each other.

Hobbes is designated as first modern political theorist. He purported to establish
his principles of political philosophy on scientific principles of human nature, viz.,
human nature was wicked, insecure and selfish, hence the need to establish a Leviathan.
His theory was influenced by the scientific progress of Bacon, Galileo and Kepler.
Hence, he encapsulated a mechanical nature, which had motion as the characteristic
feature. This admiration for motion he took from Galileo, who emphasised motion as
affected by mass, weight and acceleration. Hence, Hobbes’s philosophy is of mechanical
materialism. Consequently nature was seen as nothing else but motion, which needed to
be harnessed for “commodious living”. Awareness of Euclidean geometry was key to the
understanding and building of an artificial world. As Hobbes noted,

the greatest commodities of mankind are the arts; namely of measuring
matter and motion; of moving ponderous bodies; of architecture; of
navigation; of making instruments for all uses; of calculating the celestial
motions, the aspects of the stars, and the parts of time; of geography, & c.
By which sciences, how great benefits men receive is more easily
understood than expressed.14

The gradual secularisation of the world as evident in the works of Bacon, Galileo,
Descartes, Kepler and Newton, was impressed further by Hobbes. This secular basis of
authority and human life was entrenched further in social and political thought by the
other two social contract theorists, Locke and Rousseau. With this was coupled the
growing industrialisation and expansion of colonialism. As William Ophuls, maintains
“Hobbes whose explicit aim was to reconstruct politics in the light of the new Scientific
understanding … made building the commonwealth into a matter of engineering – that is,
of applying mechanistic principles to social life.”15 The Hobbesian mechanistic

14 Cited in ibid., p. 68.
15 William Ophuls, *Requiem for Modern Politics: The Tragedy of the Enlightenment and the challenge of
repudiated the earlier world view prevalent and consequent conception of politics and political theory based
upon it. Now, there was a measurable and manipulable mechanistic nature marked by motion. This view
transgressed into politics which focused on atomistic individual and on it was established a Leviathan.
conception of nature and social and political world is noteworthy.\textsuperscript{16} Carolyn Merchant and Freya Mathews castigate this mechanistic worldview for the domination and exploitation of nature and consequently women. Merchant argues that this mechanistic view justified the exploitation of nature as lifeless inert resource. She insisted that,

In investigating the roots of our current environmental dilemma and its connections to science, technology and the economy, we must re-examine the formation of a world-view and a science which, by reconceptualising reality as a machine rather than a living organism, sanctioned the domination of both nature and women. The contributions of such founding ‘fathers’ of modern science as Francis Bacon, William Harvey, Rene Descartes, Thomas Hobbes must be re-evaluated.\textsuperscript{17}

Freya Mathews, similarly, argues that the Hobbesian view transferred the “Newtonianism” in its “unsugarcoated implications” on social, cultural and political arena.\textsuperscript{18} She is perturbed with the implications of Newtonian science for the social and political structures. That is, the desire and justification to control and dominate was entrenched in the normative structure. This idea of nature as a mere resource and inherent definitions of human existence as going beyond natural limits was especially emphasised by liberal capitalism, particularly in the Lockean conception of natural rights by giving a predominant conception to property rights. The other competing ideology of nineteenth century was Marxism, which was opposed to liberalism in its various variants. But Marxist doctrines did not question the anthropocentric beliefs of liberalism seeing nature as a means to human ends. In fact, Marx praised capitalism for its technological progress.

\textsuperscript{16} The mechanist and atomistic thought was so predominant in Hobbesian thought that he was termed as “great mechanist” by Arne Naess. Hobbes’s atomism was deep as evident in his belief that differences in atoms produced different tastes. The smallest part of human body atoms, if are round, slow and of circular motion produced sweet taste. While narrow atoms in oblong shape with violent circular motion produced bittersweet taste. While the sour taste was caused by oblong slender atoms in to-fro linear motion. Arne Naess, \textit{Ecology, Community and Lifestyle: Outline of an Ecosophy} (Cambridge: 1989).

\textsuperscript{17} Carolyn Merchant, \textit{The Death of Nature: Women Ecology and the Scientific Revolution} (New York: 1980), p. XVII. In Merchant’s view this legitimization of nature as envisioned in Hobbesian philosophy would not have been possible in earlier Aristotelian “organic” conception. She is particularly enraged with Hobbes for his idea that even human nature, soul and brain can be said to be composed of atomized parts partaking in mechanical motion.

\textsuperscript{18} Freya Mathews, \textit{The Ecological Self} (Savage, Md., 1991). She noted, “if Newtonianism did reflect the world as it really is, then a Newtonian social system would indeed be natural, and to that extent legitimate.” p.29. Mathews argues that Newtonian conception is not correct depiction of reality. Further, with new developments which purport to transgress the Newtonian physics. She was also impressed by developments in twentieth century physics and believed that it offered an alternative conception of nature. From this alternative conception of nature one could derive an alternative conception of social culture embracing the ideas of deep ecology.
Marxism and the Environment

As Marxist thought is bifurcated between early or Young Marx and later or scientific Marx, similarly, some authors believe that due to its early humanistic beliefs, Marx was environmentally sensitive. This belief was later obviated in determinist understandings of human history located in the mode of production and relations of production. Emphasising the relevance of young Marx to understanding the linkage between environment and Marxist philosophy, Peter Dickens argues,

of central importance to Marx’s approach was his dialectical method. And it is this which makes it especially relevant to the study of the relationships between organisms and environment. His approach was relational. That is to say, he always saw an object such as a human being, a plant or a sum of money not as a thing but as a set of relations. 19

Dickens takes recourse to Marx’s theory of alienation to underscore the environmentally sensitive nature of Marxian theory, since alienation is a dominant theme in Marx’s beliefs, the capitalist means of production is said to produce estrangement between labour and product of labour conceptualised in nature. It is particularly significant when Marx envisaged nature as man’s “inorganic body”, for man’s existence depends on nature. As Marx said

Nature is man’s inorganic body, that is to say nature is in so far as it is not the human body. Man lives from nature, i.e. nature is his body, and he must maintain a continuing dialogue with it if he is not to die. To say that man’s physical and mental life is linked to nature simply means that nature is linked to itself, for man is part of nature. 20

Though Marx insists on Man’s dialectical relationship with nature, and emphasises on nature as key in human self-understanding. But as Peter Dickens notes there is a “certain triumphalist strain” in the whole Marxist literature. Even where alienation is underscored it is only in particular character of relationship with nature. But

19 Peter Dickens, Society and Nature: Towards a Green Social Theory (London, 1992), p. 63. Despite, liberal interpretation of thought of early Marx, Dickens can’t desist from pointing out some of the problems in early Marx’s thought. It continued with the dualism between ‘man’ and ‘animals’. Also, his belief in environment as resources was in line with traditional anthropocentric beliefs. As Dickens, notes that, “on the other hand, Marx left us with a range of problems first… there persists a residual dualism between ‘man’ and ‘animals’. Second, and not surprisingly, his view of the environment and resources on which ‘man’ depends is inadequate for our contemporary purposes. To push his argument to its logical conclusion we need to consider the environment not as a set of infinite resources but also capable of feeding back on an deeply affecting human beings and their projects.” p. 63.

20 Cited in ibid, p. 64. (emphasis in the original)
as Peter Dickens, further emphasises, that emancipation even under communism is of "... one of mastery and domination rather than respect and reciprocal adjustment."²¹

Similar views have been put forward by Alfred Schmidt.²² Schmidt argues that Marx visualised nature in anthropocentric terms, where nature is postulated as "the means and material of (our)... self-realization in history". Nature provides the material over which human labour is practiced. Hence, Schmidt asserts that nature is mediated through society: "if labour is the formal 'creator of value', the stuff of nature is its material creator."²³ But nature can't be understood as a mechanical material existing oblivious to human consciousness. Though at the material level nature exists independently of human consciousness, the idea of a law of nature is without meaning unless attempts are made to master nature. This has been evident in advancement in scientific understandings of the working of nature. Probably because of the social character of scientific advancement, Marx stresses nature as a social category. Hence, according to Alfred Schmidt, "if nature is a social category, the inverted statement that society is a category of nature is equally valid".²⁴ But, despite proclaiming nature and society in a dialectical relationship, nature is still the background through which human labour and essence is realised. Hence, Dicken's conclusion that the Marxian view of nature is anthropocentric is quite valid.

Eckersley gives a similar interpretation of Marxism. He argues that Marx primarily looked at nature as providing a means to labour. Eckersley maintains, "the overriding sense in which Marx characterised nature as a medium for human labour, as the means by which the power of the human labour could be revealed" (emphasis in the original).²⁵ According to Eckersley, Marx viewed nature as a "laboratory", "the original tool house", or the "original larder".²⁶ Traditionally, Marxist thought has been subdivided

²¹ Ibid., p. 78. As Dickens cites from Engel's "Socialism: utopian and scientific" arguing that: "the whole sphere of the conditions of life which environ man, and which have hitherto ruled man, now comes under the dominion and control of man, who for the first time becomes the real, conscious of lord of nature, because he has now become master his own social organisation. The laws of his own social action, hitherto starting face to face with man as laws of nature foreign to, and dominating him, will now be used with full understanding, and so mastered by him." pp. 78-9.
²³ Ibid., p. 66.
²⁴ Ibid., p.70.
²⁶ Ibid., p. 77.
into young or humanist Marx and orthodox or mature Marx. Similar differences can be found in Marxist ideas on nature. Early Marx as Peter Dickens showed, emphasised the relational aspect of individual and nature. Even though this relation was dialectical, but it was key to human self-realisation, by asserting nature as man’s inorganic body. In The Economic and Philosophical Manuscripts of 1844, Marx posited the humanist interpretation of nature, arguing that labour humanises nature and nature in turn naturalises humanity. Similarly, Eckersley argues, that in Marx, “history was seen as the progressive humanization of nature and naturalization of humanity, resulting in an ever greater equivalence between humanity and nature (i.e., where nature increasingly appeared as made rather than given, domesticated rather than wild).”  

But Marx continue to view humans as Homo faber in their relationship with nature. However, Marx argued that this dialectical relation between human and nature can only be transformed but not all out abolished. According to Eckersley, “although more and more areas of nature would come under human control though technological development, the antagonistic dialectic between humanity and nature would never be entirely resolved.”

Hence, even in the environmentally mild versions of humanist Marxism, as the term “humanist Marx” itself suggests, the anthropocentric bias is evident in Marxian theory. But mature Marx was unabashedly anthropocentric, emphasising mode of production, which involved both social (relations of production) and technical (forces of production) determinants. He eulogised the forces of production viz., their technical prowess and only attempted to change the relations of production. In fact, Marx welcomed the technological progress achieved under capitalism, which facilitated human transgression from “realm of necessity” to “realm of freedom”. According to Eckersley, “Marx also welcomed what he saw as the civilising influence of technology and rejected nature romanticism and primitive cultures alike as “childish”, “backward”, and “reactionary” in opposing, or otherwise showing no inclination toward technical progress”.  

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27 Ibid., p. 78.
28 Ibid., p. 79.
29 Ibid., p. 80. In fact, Marx implored the conquest of nature and annexing it to become one’s organ through investing labour in it: Similar to Locke believed in labour as extending one’s personality. Marx said, nature
Similar views concerning Marxist thought have been asserted by Rudolf Bahro. He noted that

Marxists have so far rarely considered that humanity has not only to transform its relations of production, but must also fundamentally transform the entire character of its mode of production, i.e. the productive forces, the so-called techno structure. It must not see its perspective as bound up with any historically transmitted form of the development of needs and their satisfaction, or of the world of products designed for this purpose. The commodity world that we find around us is not in its present form a necessary condition of human existence.⁴⁰

But for Bahro, Marx’s communist society was based on satisfaction of basic needs. According to Bahro, “Marx himself, moreover, had the idea that modern communism would have something in common with the primitive community, a communism of solidarity and simple reproduction of the conditions of life.”⁴¹ Bahro interprets Marx as stressing the simple subsistence life, where daily necessities of life are met. But Bahro bemoans the fact that in capitalism, the objective of industries has replaced satisfaction of basic needs to “means of enjoyment and personal development”. However, Michael Lowy castigates Marx for lack of an integrated holistic development of the concept of nature. Though, at times Marx, and particularly Engels, refers to the exhaustion of nature, but they lack a well thought out integrated development of the concept of nature.⁴² As Lowy maintains, “in Capital one can find here and there

“becomes one of the organs of his activity, one that he annexes to his own bodily organs, adding stature to himself in spite of the Bible.” p. 80.

⁴⁰ Rudolf Bahro, Socialism and Survival: Articles, Essays and Talks 1979-1982 (London: 1982), p. 27. Bahro himself a socialist, locates the environmental problems in capitalist mode of production which “enforces such a wasteful consumption pattern.” Bahro contests the technocratic structure which Marxists only want to replace. He points out how even a thinker of the calibre of Gramsci “was still able to view technique, industrialism, Americanism, the Ford system in its existing from as by and large an inescapable necessity, and thus depict socialism as the genuine executor of human adaptation to modern machinery and technology (p. 27).” This technocratic structure, of which even Marx was fascinated, led to unsustainable consumption. As he further points out, “just examine the projection for materials and energy consumption for the next few decades, as well as those for environmental damage, and consider what would happen if the peoples of the rest of the world were to follow the example set out by our civilization here.” p.27.

⁴¹ Ibid., p. 29.

⁴² In some passages in Capital Marx did note that capitalist accumulation engenders exploitation of both soil and labour. Particularly, Engels was more aware of the environmental limits. He said that humans should not be in the happy illusion that they are victors on nature. But rather a part of nature, and nature has propensity to strike back. Engels argued that, “at every step we are reminded that we by no means rule over nature like a conqueror over a foreign people, like someone standing outside nature—but that we, with flesh, blood and brain, belong to nature, and exist in its midst, and that all our mastery of it consists in the fact that we have the advantage over all other creatures of being able to learn its laws and apply them

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references to the exhaustion of nature by capital.” However, “Marx does not posses an integrated ecological perspective.”

Similar views regarding Marx’s view on nature has been expressed by Ted Benton. Benton argues that “there is crucial hiatus between Marx’s and Engel’s materialist premises in philosophy and the theory of history, on the one hand, and some of the basic concepts of their economic theory, on the other.” According to Benton, this hiatus is due to “an insufficiently radical critique” of the classical political economy. Benton points to the thoughts that Marx and Engels expressed on “overreaction” to Malthus’s prognostication of population rising geometrically and food supply only arithmetically. Engels argued that it was ridiculous to talk of overpopulation when a large area of the earth remained unpopulated. Marx and Engels, according to Benton, did not recognise natural limits to accumulation. They were “consistently and forcefully critical of this natural-limits argument. We must conclude that in their mature economic theory, Marx and Engels were even more resistant than Ricardo to the idea of economically significant natural limits to capital accumulation.” This failure to recognise natural limits was because “Marx’s conception even of productive labour process is shown to exaggerate their potentially transformative character, whilst under-theorizing or occluding the various respects in which they are subject to naturally given and or /relatively non manipulable conditions and limits.”

However, Howard L. Parsons repudiates the notion that Marx and Engels do not give credence to ecological limits, that they view human productive forces as progressing independently of any natural limits, the only limitation to progress being technological

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33 Ibid., p.64 (emphasis in the original).
34 Ibid., p. 73. Benton argues for three step corrections to be made in the Marxist thought. Firstly, “contextual conditions should be conceived separately from the instruments of labour, as an independent class of ‘initial conditions’. Secondly, “the continuing pertinence of these contextual conditions to the sustainability of production needs to be incorporated, as with eco-regulatory practices.” Thirdly, “some of the naturally mediated unintended consequences of the operation of labour processes may impinge upon the persistence or reproduction of its contextual conditions and /or raw materials” p.73.
development. Parsons cites various quotations from Marx and Engels’s work to prove that they did have a conception of ecological limits. Parsons asserts that

Marx and Engels repeatedly pointed to the ‘objective conditions’ of man’s natural and historical environment within which he lives, labors, and has his being. Nature is an existence which Marx aptly described as ‘presupposed’ for man’s communal activity. Through its instruments of labor, materials climate, and other characteristics, nature determines man’s production and in turn is determined by that production.  

Reiner Grundmann likewise maintains that the Marxist approach towards ecology is more “profound and relevant, and still provides insight into the ecological challenge.” Grundmann contest the validity of ecocentric approaches and their criticism of anthropocentric thought, as evident in Benton’s argument positing that man-nature relationship involves human domination over nature, as happened in Marxist thought. Grundmann asserts that “any ‘ecocentric’ approach is bound to be inconsistent, unless it adopts a mystical standpoint.” For, the ecocentrics import their own values and standards on nature, i.e. they anthropomorphise nature as evident in the talk of nature’s balance or beauty, these are indeed human standards. As Grundmann further maintains, “ecological problems arise only from specific ways of dealing with nature. To repeat my earlier claim both society’s existence in nature and its attempt to dominate nature are compatible, human beings do indeed live in, and dominate, nature.” Grundmann argues that with respect to the ecocentrics view point, going back to simpler way of life is neither possible nor desirable, since the costs may outweigh the benefits. Hence, concerning Marx, Grundmann asserts that

As far as such approaches are concerned, I simply affirm that Marx’s formulation of the modern relationship to nature is, with some qualifications, still superior to romantic dreams about a completely new relationship. Between nature and humankind there can be no harmony; the

37 H.L. Parsons, ed., *Marx and Engels on Ecology* (Westport, Conn., 1977) p. 121. Parsons cites many quotations expounding human-nature relation, they focus on dialectical relationship between human-nature, interdependence and transformation of nature through labour. Parsons is a representative work on ecology in Marx, but according to some critics it shows an example of “isolated insights”.


39 Ibid., p. 112.

40 Ibid., p. 113.
appropriate forms of transforming nature must be set and defined by
historically existing human cultures.\textsuperscript{41}

Paul Burkett, similarly, refutes allegation that Marx was not environmentally
sensitive or does not propound "an integrated ecological perspective." But, for Burkett,
while "Marx sees the evolution of humanity as primarily shaped by the changing social
forms of production, but he sees these social forms as being themselves reshaped by
production as a material process dependent upon natural conditions."\textsuperscript{42} Burkett asserts
that Marx was never oblivious to the fact that nature plays a vital role in the production of
value. Hence, he saw both material and social conditions of production involving
appreciation of nature. For Burkett, Marx's approach was true to the "original meaning"
of ecology, emphasising interrelationship between humans and nature. Marx emphasises
interrelatedness in his dialectical concept of man and nature relations. Therefore, "Marx's
approach automatically recognizes that all conceptions of "ecology" and "ecological
crisis" are human-social constructs inevitably bearing the stamp of particular social
forms of production."\textsuperscript{43} But Michael Redclift interprets Marx in traditional
anthropocentric terms. Redclift concludes that

- Capitalism developed, according to Marx, through the more efficient
  production and appropriation of surplus value, which implied new land
  and resource uses. The environment performed an enabling function, but
  all value was derived from the exploitation of labour power. It was
  impossible to conceive of a 'natural' limit to the material productive
  forces of society. The barriers that existed to the full realization of
  resource potential were imposed by property relations and legal
  obligations rather than resource endowments. No contradiction existed
  between man's mastery of nature and his ability to exploit science for his
  own ends.\textsuperscript{44}

- Jonathan Hughes also makes a favourable interpretation of Marx and Engels. He
  asserts that critics are mistaken to believe that just because Marx sought to repudiate the

\textsuperscript{41} Ibid., p. 120. Grundmann criticises Benton's argument on account of three reasons. Benton, had a very
limited conception of ecological problems. He is restricted to ecological limits, using it as a sort of axioms,
which fails to acknowledge other ecological problems viz., pollution and their varied causes. By this,
Benton reduces the issues of ecology between Marxists and environmentalism. Thirdly, according to
Grundmann, Benton, who himself accuses Marx of falling for scientific rationality of nineteenth century,
but he himself falls for "ecological romanticism".

\textsuperscript{42} Burkett, n.33, p.6. (emphasis in the original).

\textsuperscript{43} Ibid.

\textsuperscript{44} Michael Redclift, Development and the Environmental Crisis: Red or Green Alternatives? (London,
Malthusian predictions, it implied that Marx did not appreciate ecological limits. Hughes "rejected the Malthusian notion of nature as an absolute constraint on social development, on the grounds that nature's impact is always mediated by social and technological factors." Hughes argues that it is not that the Marx does not accept ecological limits to human production. But the concept of human need is central to an understanding of the connection between Marx's broader materialist understanding of the human-nature relation and his narrower theory of history. The dependence of humans upon nature is expressed in terms of their possession of material needs, and the satisfaction of those needs in the underlying purpose of the labour process and the motivation for developing the productive forces. Critics of Marx assert that Marxian theory was charmed by scientific progress of nineteenth century, and this scientific progress as envisaging instrumental rationality believed in domination of nature. Critics locate environmental problems in this technological rationality. But according to Hughes, that technological development can take a variety of forms with differing ecological consequences; that the role played by that development within historical materialism gives us no reason to suppose that adherents of the theory are committed to its damaging forms; and that it is possible to explain the occurrence of that development, upon which Marx's theory depends, in a way which allows for variations in its forms, so that it may, depending on circumstances, include the kinds of development that will reduce the negative ecological consequences of productive activity.

**Biocentrism and Ecocentrism**

Though there are two variants in contradistinction to anthropocentrism viz., biocentrism and ecocentrism. Biocentrism overlaps with ecocentrism owing to their shared avowed opposition to anthropocentrism. Robin Attfield defines normative anthropocentrism as 

As stance that limits moral standing to human beings, confines the scope of morality and moral and concern to human interests, and regards nothing

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46 Ibid., p.120.
47 Ibid., p.158. Hughes sees Marx's emphasis on satisfaction of needs as key to this theoretical artifice. It was on this locus which Marxian theory revolved. And production methods or taxes were specifically enjoined towards this end. Hughes notes that, "if our needs include such things as increased leisure time and a healthy and aesthetically satisfying environment, then we have reason to limit the expansion of output and to redirect technological development towards these ends. There is, however, at least one persistent element in Marx's discussion of needs, which he appears to regard as both desirable and inevitable." p.159.
but human well-being as valuable intrinsically (literally, anthropocentrism of values, norms and principles).\textsuperscript{48}

While biocentrism is

A normative stance that holds that all living creatures have a good of their own, and have moral standing accordingly, and that their flourishing or attaining their goods is intrinsically valuable.\textsuperscript{49}

On the other hand, ecocentrism as defined by Robin Attfield is

The normative stances that holds that ecosystems have a good independent of that of their component individuals, and as such have their own moral standing, and that their attaining or sustaining good has intrinsic value.\textsuperscript{50}

Careful analysis of the above definitions will amply show how scope of good or moral standing is expanding from humans to all living beings, and ultimately to whole ecology. The ardent advocate of expanding moral values to other species and living beings was Peter Singer.\textsuperscript{51} Singer, taking cue from utilitarian philosophy emphasised that even animal beings are capable of suffering pain and enjoying pleasure. Singer argued that belief which does not extends moral standing to animals, itself suffers from "speciesism" or "human chauvinism", which is no less unethical than the practice of sexism or racism. The assertion of animal rights has also been termed as "moral extensionist" category. Singer's idea is an example of "ethical sentientism". Singer asserts that "sentience" is the standard of value, and since animals are sentient beings, and hence the case for moral extension. But this concern for animals does not imply equal treatment. In similar direction, but more radical one was made by Tom Regan. He postulated that all creatures have rights as humans do. Regan's is a rights based approach. But because of Regan's rights based approach, it becomes difficult to differentiate

\textsuperscript{48} Robin Attfield, \textit{Environmental Ethics: An Overview for the Twenty-First Century} (Cambridge, 2003), p.188.

\textsuperscript{49} ibid., p.189.

\textsuperscript{50} ibid., p.193.

\textsuperscript{51} Peter Singer, \textit{Animal Liberation} (New York, 1976). But Singer does not expands his circle to include plants and trees. This is so because, "there is a genuine difficulty in understanding how chopping down a tree can matter to the tree if the tree can feel nothing" in Peter Singer, \textit{The Expanding Circle: Ethics and Sociobiology} (Oxford, 1983), p.123. But Plumwood sees this reluctance to expand circle as an example of continuance of neo-Cartesianism. She terms Singer's approach as minimalism i.e. "a minimal extension of recognition to a few animals most like we humans, and a minimalist methodology urging minimal departures from the status quo of humanism." Val Plumwood, \textit{Environmental Culture: The Ecological Crisis of Reason} (London, 2002), p.148.
between human and animal worlds. Regan ascribes rights to animals which are "subject-of-a-life", particularly mammals. But for ecocentrists the "expansion of circle" to animals was not enough. It should also include plants and other ecological features like mountains and river systems.

The ecocentrists are not satisfied with anthropocentrism and biocentrism. In fact, they castigate biocentric views as just carrying forward human/nature dualism, as was pointed out by Val Plumwood. The ecocentrists emphasize on shifting the focus from human or animals to the whole ecology itself. The term ecology emphasises interrelationships. It was coined by German zoologist Ernst Haeckel in 1866, emphasising relations between humans and their biotic and abiotic environment. Haeckel sought to study the relations between organisms and their environment. Similarly, Andrewartha and Birch, emphasising interdependence, argue for the "ecological web." They were primarily concerned with "distribution and abundance of

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52 Tom Regan, The Case for Animal Rights (Berkeley: 1983) Regan's rights are extended to mammals only, since they possess self consciousness and can be object of suffering. Hence, Regan found commercial use of animals obnoxious, since it views animals as a resource to be exploited. Regan argues for "the total abolition of the harmful use of animals in science – in education, in toxicity testing, in basic research." (p.393) But Plumwood argues that "the basic strategy of neo-Cartesianism as employed in animal defence is to attempt to extend the privileged category of the human in human/nature dualism rather than to try to break human/nature dualism down." See Plumwood, n.51, p.143.

53 However, Donald Worster, notes that the study of ecology is much older than the coining of the term suggests. Its study can be rooted in the earlier study of "economy of nature". The locus of this scientific study has been interdependent existence of human and environment surroundings. But Worster, argues that, "an awareness, more philosophical than purely scientific, of this quality is what has generally been meant by the "ecological point of view." Thus, the question of whether ecology is primarily a science or a philosophy of interrelatedness has been a persistent identity problem." And this identity problem leads to a parallel dilemma being unravelled, in much of the environmental thought, is that whether, "is it a system of economic organization or a moral community of mutual tolerance and aid?" Donald Worster, Nature's Economy: A History of Ecological Ideas (Cambridge, 1977), p. 378.

54 Andrewartha and Birch focus on distribution of animals and their interdependence or their environment. They espouse a theory of environment, having three propositions. Firstly, "any environment is made up of a centrum of directly acting components and a web of indirectly acting components." p. 3 (emphasis in the original) Secondly, "The centrum of the environment of any animal comprises four divisions (or "components"); each division house a characteristic set of components that we call resources, mates, male titles and predators." p. 5. The third proposition states that, "the web comprises a number of systems of branching chains. A link in the chain may be a living organism (or its artifact or residue) or inorganic matter or energy." p. 5. H. G. Andrewartha and L. C. Birch, The Ecological Web. More on the Distribution and Abundance of Animals (Chicago, London, 1984). Authors accept that they were inspired by the Darwin, "the web of complex relation" and hence similarly in ecology and evolution. But in difference to Darwin they emphasised on "non-living components of environment in both centrum and web." They first put forward their theory of environment in. H. G. Andrewartha and L. C. Birch, The Distribution and Abundance of Animals (Chicago, 1954).
animals” but they did recognise the importance of both biotic and abiotic chains in this ecological web.

Eckersley argues that “ecocentrism is based on an ecologically informed philosophy of interrelatedness, according to which all organisms are not simply interrelated with their environment but also constituted by those very environmental interrelationships.” Ecocentrists emphasise interrelatedness of the world reality, which can’t be broken up in parts, for example, human vs. animal, or human vs. nature, on some distinguishing features (e.g. language ability, rationality and capacity to make tools). The fundamental tenet of ecocentrism is that it values the environment for itself, not because it is a store house of resources. It is against anthropocentric philosophy which postulates humans as superior and that all existence is to subserve human needs and make life comfortable for human beings. Ecocentric theorists question the legitimacy of a rigid differentiation between humans and other species. They term it as an example of “human chauvinism” or “speciesism”. This tendency to search for differential feature of humans “fails to recognise the special attributes of other life-forms: it assumes that what is distinctive about human is more worthy than, rather than simply different from, the distinctive features of other life-forms.”

Aldo Leopold, on similar lines stressed for a “new ethic” which would incorporate land into moral community. Leopold visualised development of morality into three stages. In the first stage, as impressed in the Ten Commandments, the focus was on the relationship between individuals. In the second stage, this moral community expanded to focus on the relationship between individuals and society. But Leopold rues the fact that this gradual development in morality does not logically extend to recognition of land as of moral standing and hence worthy of ethical obligations. As Leopold points out, “the land ethic simply enlarges the boundaries of the community to include soils,

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55 Eckersley, n. 25, p. 49.
56 ibid., p. 50. Rodman terms this quest for differentiating feature as “diTerential imperative.” That is superiority of human depends upon investing in building of this superior characteristic. Rodman traces this thought in ancient western thought to Socrates, who said exemplar human is “the one who most fully transcends their animal and vegetative nature.” John Rodman. “Paradigm Change in Political Science,” American Behavioural Scientist, 24, 1980.
waters, plants, and animals, or collectively the land.” 58 Leopold argues that traditionally ecological sensitiveness has been espoused in terms of “enlightened self-interest”, primarily based on economic value. But, according to Leopold, this reasoning will not hold for ecological features which can’t be couched in terms of economic value. He points out that “land-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago.” 59

Arne Naess, one of the most renowned advocates of the ecocentric approach, differentiated between shallow ecology and deep ecology. Naess pointed out a powerful but shallow ecology movement is popular, while he favours deep ecology. Shallow ecology movement endeavours to “fight against pollution and resource depletion. Central objective: the health and affluence of people in the developed countries.” 60 In contrast, Naess, argues deep ecology emphasise “the relational, total field image.” Awareness of this interrelated “biospherical net” and “ecological knowledge and the life style of the ecological field worker have suggested, inspired, and fortified the perspectives of the Deep Ecology movement” 61 (emphasis in the original). Naess points out that deep ecology are primarily normative. And therefore it is ecophilosophical as compared to scientific connotations of the ‘ecology’. Instead, Naess prefers “ecosophy” emphasising “ecological harmony or equilibrium.” Naess emphasises normative interpretation of ecosophy.

Elaborating on deep ecology, Bill Deval and George Sessions, like Naess, also emphasise the “spiritual approach” to nature. The emphasis is on an expanding sense of self, from “an isolated ego striving primarily for hedonistic gratification” to “the

58 Ibid., p. 204.
59 Ibid., p. 209. Leopold argues that conservation has been advocated or couched in terms of economic self interest, and at times conservation experts have to “invent subterfuges.” But this is problematic since a large share of plants and animals could be shown to be without economic value. For example, “lack of economic value is sometimes a character not only of species or groups, but of entire biotic communities. marshes, bogs, dunes, and ‘deserts’ are examples.” p. 212.
realization of self-in-self” where “Self” stands for organic wholeness”.

In short, the emphasis is on a widening sense of self, so as to be sensitive to the existence of other biotic and abiotic communities. Devall and Sessions point out that deep ecology is particularly relevant for modern societies because since, “in technocratic-industrial societies there is overwhelming propaganda and advertising which encourages false needs and destructive desires designed to foster increased production and consumption of goods.” Differences between modern world view and deep ecology, as pointed out by Devall and Sessions is presented below.

<table>
<thead>
<tr>
<th>Present Worldview</th>
<th>Deep Ecology</th>
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<tbody>
<tr>
<td>➢ Dominance over Nature</td>
<td>➢ Harmony with Nature</td>
</tr>
<tr>
<td>➢ Natural environment as resource for humans</td>
<td>➢ All nature has intrinsic worth biospecies equality</td>
</tr>
<tr>
<td>➢ Material/economic growth for growing human population</td>
<td>➢ Elegantly simple material needs (material goals serving the larger goal of self-realization)</td>
</tr>
<tr>
<td>➢ belief in ample resources reserves</td>
<td>➢ Earth “supplies” limited</td>
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<tr>
<td>➢ High technological progress and solutions</td>
<td>➢ Appropriate technology; non dominating science. Doing with enough recycling</td>
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<tr>
<td>➢ Consumerism</td>
<td>➢ Minority tradition /bioregion</td>
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<td>➢ National/centralized community</td>
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63 Ibid., p. 68. George Sessions and Arne Naess, give eight basic principles of deep ecology: “1. The well-being and flourishing of human and nonhuman life on Earth have value in themselves (synonyms: intrinsic value, inherent value). These values are independent of the usefulness of the nonhuman world for human purposes. 2. Richness and diversity of life forms contribute to the realization of these values and are also values in themselves. 3. Humans have no right to reduce this richness and diversity except to satisfy vital needs. The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease. 5. Present human interference with the nonhuman world is excessive, and the situation is rapidly worsening. 6. Policies must therefore be changed. These policies affect basic economic, technological, and ideological structures. The resulting state of affairs will be deeply different from the present. 7. The ideological change is mainly that of appreciating life quality (dwelling in situations of inherent value) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between big and great. 8. Those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes.” p. 70. (emphasis in the original)
Naess, argues that the term ecology is scientific, emphasising interrelations. But Naess favours a philosophical or normative approach under ecology wherein, "ecosophy becomes a philosophical world-view or system inspired by the conditions of life inn the ecosphere." According to Naess, ecosophy obviates the dangers of "ecologism, universalisation or generalisation of ecological concepts and theories." Instead, he favours an evaluative which is and normative approach which are contextually placed. Similarly, emphasising on the interrelationship, Birch and Cobb point out that "the ecological model is a model of internal relations." Birch and Cobb argue that the human being is not an independent existing being but rather a relatively autonomous being. Philosopher J. Baird Callicot, arguing on similar lines, asserts that "ecology changes our values by changing our concepts of the world and of ourselves in relation to the world. It reveals new relations among objects which, once revealed, stir our ancient centres of moral feeling."

Ecocentrists agree on the relational, or interdependent, or web of human life. In fact like communitarians, they emphasise the importance of ecological relationship in constitution of self. That is the widening of self to incorporate other living and non-living beings. This interrelatedness constitutes the formation of the self. In other words, nature can be understood in the same form as humans i.e. they may be distinct but they are not different. Ecocentrism postulates that the human being is neither an atomistic individual nor a passive creature, but is a relatively autonomous being. Though our concept of self is constituted by the ecological relationship, but we are not solely dependent on it. In fact, there is an element of self-determination and autonomy.

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65 Ibid., p. 39. Naess, is against any universal all encompassing proclivities of ecology. Emphasising the local and individual contextual approach, he terms his approach as Ecosophy T. Hence, he argues one is "not expected to agree with all of its values and paths of derivation, but to learn the means for developing your own systems or guides, say, Ecosophies X, Y, or Z ... Along with one's life, it is always changing." p. 37. (emphasis in the original).
67 Cited in Sessions and Naess, n. 64, p. 67.
68 Communitarianism holds the view that the sense of self is constituted through the community. They talk of the situated self. Modern communitarianism arose as a critique to individualist and atomist liberalism. Left wing communitarians emphasise freedom and equality. While right wing communitarians argue for authority and order. The prominent theorists of communitarianism are Alisdair MacIntyre, *After Virtue* (Notre Dame, IL, 1981) and Michael Sandel, *Liberalism and the Limits of Justice* (Cambridge, 1982). The other prominent communitarians are Charles Taylor and Michael Walzer.
Ecocentrists emphasise the flexible or plastic nature of the dividing line between the human self and the other. As Evelyn Fox Keller points out humans are in “dynamic autonomy”, and this dynamic autonomy “is a product as much of relatedness as it is of delineation, neither is prior.”

Eckersley differentiates three types of ecocentrism, viz., autopoietic intrinsic value theory, transpersonal ecology (also referred to as deep ecology) and ecofeminism. The autopoietic intrinsic value strand of ecocentrism characterises all entities which have self generative property as possessing intrinsic value. “An autopoietic approach attributes intrinsic value to all entities that display the property of autopoiesis, which means “self-production” or “self-renewal” (from the Greek autos “Self,” and poiein, “to produce”). Autopoietic entities are concerned with continued existence. But autopoietic entities are different from machines in that they are able to self-renew and self-generate. Also, in contradistinction to machines they are end in themselves e.g. ecosystems, individual organisms, gene pools and populations. Hence, it stays clear of extreme holism and extreme atomism. It assigns values not only to individual organisms but also collectivity capable of self-generation, like ecosphere, or whole earth. Earth was argued to be a self-regulating system in James Lovelock’s notion of Gaia.

Lovelock took recourse to the notion of Gaia, from the Greek mythology, which meant goddess earth. Gaia is “earth’s biosphere, atmosphere, oceans and soil.” Initially, Lovelock postulated that “life regulated the climate and the chemical composition of the atmosphere at an optimum for itself.” Later, he redefined the hypothesis arguing that “the whole system of life and its material environment is self-regulating at a stable enough for the organisms.” Lovelock accepted that he doesn’t know whether the Gaia theory is right or wrong, but it is better to look at earth as a self-regulating system. He bemoaned environmental destruction and pointed out that “to destroy such a large chunk of the

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70 Eckersley, n.25, p. 60. Eckersley points out that autopoietic intrinsic value theory is better than land ethic of Aldo Leopold, who enjoined, “a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it does otherwise.” Leopold, n. 57, pp. 224-5. It could be termed as a form of “environmental fascism”. But autopoietic intrinsic value theory is better from both atomism and holism, since it posits value to all self-generating organisms and processes.
living ecosystem when we do not properly know how it all works is like pulling apart the
control systems of modern aircraft while in mid-flight.”

The other strand of ecocentrism differentiated by Eckersley is transpersonal
ecology. It is also termed as deep ecology. As the name suggests it, it espouses
transcending our limiting sense of self and giving it a wider horizon to include other
features of ecology. But this identification with self does not have any traces of
narcissism involving projecting one’s egoism to other entities. Nor does it have any traces
of patronising attitude. The notion of an expansive self, but not imperialist self is central
to transpersonal ecology. This identification is “psychological consequence.” The
transpersonal or deep ecology is necessarily normative and philosophical. It is more
concerned with norms governing or guiding ourselves. But autopoietic intrinsic value
theory scores over transpersonal ecology in that it is favourable to be followed in practice
and its legal suitability.

The third variant of ecocentrism thought which has gained tremendous popularity
is ecofeminism. Ecofeminists emphasise similarity between females and nature; hence,
the identification between them as also espoused in transpersonal ecology. This
identification stems from what the ecofeminists argue are similar exploitative experiences
of both nature and women. This exploitation is in the form of domination of both women
and nature. Identification is also from the reproductive features of both nature and
women. Earlier identification is termed by Eckersley as “oppression argument.” The later
argument is “body-based argument”, where

it is often claimed, or more usually implied, that this case of identification
with the rest of nature arises by virtue of what is unique about women’s
bodies (e.g., ovulation, maturation, pregnancy, childbirth, and suckling the
young). Here, the special connection between women and nature is usually
presented as something that is grounded in women’s reproductive and
associated nurturing capabilities.73

Carolyn Merchant, one of the leading ecofeminists, argues that “the image of the
earth as a living organism and nurturing mother had served as a cultural constraint

73 Eckersley, n. 25, p. 67.
restricting the actions of human beings.”\textsuperscript{74} She asserts that the organic metaphor has been dominant in describing life around us from the earliest, but with the scientific revolution this organic metaphor transformed itself into earth as a machine. Though, Merchant desists at from giving any uniform homogeneous organismic conception, she does accept that “a spectrum of philosophical and political possibilities existed, all of which could be subsumed under the general rubric of organic.”\textsuperscript{72} But she does bemoan the fact that “as western culture became increasingly mechanized in the 1600s, the female earth and virgin earth spirit were subdued by the machine.”\textsuperscript{76}

Val Plumwood also favours the adoption of ecofeminist ethics. She contests the one strand of feminism which dismisses talk of likeness of females and nature. They argue that this continues with the traditional masculine discourse which castigates the female as reproductive and passive. As Plumwood notes, “it is both tempting and common therefore for feminists to view the traditional connection between women and nature as no more than an instrument of oppression, a relic of the bad old days which should simply wither away once its roots in an oppressive tradition are exposed.”\textsuperscript{77} Plumwood contests this belief, for it is plagued with ambiguity in its conception of feminism. This ambiguity arises from the “naive” belief that females are to become “simply unproblematically and fully human.”\textsuperscript{78} Plumwood contests this view and seeks to problematise the conception of human which she argues, continues with same bias which

\textsuperscript{74} Merchant, n.17, p. 3. She accepts, what has been very prominently emphasised by philosophers of language and postmodernists, that theory or description is not only reflective but also constitutive of our behaviour. She argues, “descriptive statements about the world can presuppose the normative, they are ethic laden. A statement’s normative function lies in the use itself as description.” p. 5. With the prominence of mechanistic view of nature, which purported to describe the workings of the earth in an “objective reality” had the consequent normative implication of control and domination.

\textsuperscript{75} Ibid., p. 2.

\textsuperscript{76} Ibid., p. 2. Merchant takes a very extensive study of “the variations of the organic framework, focusing on its associated female imagery and pointing out the values linked to each of the variants.” p. 5.

\textsuperscript{77} Val Plumwood, “Women, Humanity and Nature”, in Sean Sayers and Peter Osborne, eds.,\textit{ Socialism, Feminism and Philosophy: A Radical Philosophy Reader} (London, 1990), p. 213. The predominant strain in this form of feminism was to be equal sharers in the profit of liberal democracy. As Mary Wollstonecraft in her \textit{A Vindication of Rights of Woman}, asserted for women to be allowed, to participate in the rights of women. Also, it is interesting to note that she desisted from extending this right to Asians and Africans.

\textsuperscript{78} Mary Wollstonecraft, \textit{A Vindication of the Rights of Woman} (London, 1982).

\textsuperscript{78} Ibid., p. 214 Plum wood is not happy with unquestioned acceptance of the concept of human. As she maintains, “the concept of the human is itself very heavily normative.” p. 218. Plum wood argues that the feminists opposing identification with nature, are eager to identify with the concept of human, which is primarily masculine but also responsible for relegation of women. And, it was this concept of humanity as characterised by, “the ideas of rationality, self expression, freedom and control via transformation and domination of the natural.” p. 219.
has relegated females to the second order. It, as she argues, "usually amounts to implicitly endorsing an alternative masculine model of the human and of human relations to nature and to implicitly endorsing also female absorption into this model".  

Instead of repudiating this feminist-nature linkage, Plum wood espouses an emphasis on their mutuality. She argues for a reappraisal of sense of humanity so that technological domination and control of nature, could be obviated. Hence, according to Plumwood,

What is needed is a regendered model, which realigns the gender power structure, reconstructs the gender identities and challenges the dualisms on which they have been based. Thus a sophisticated ecofeminism based on the feminist critique of gender and of dualism challenges nature/culture dualism, and dominant masculine model of human culture and the human self as separated and maximally distanced from the natural world, and from features of the human self shared with the natural world-nature within. On such an alternative model of the human we would not over emphasise or overvalue the characteristics that set humans apart from the natural world nor attempt obsessively to maximize the differences as the main source of virtue.

Vandana Shiva is another prominent ecofeminist thinker who questions the "modern reductionist science" and argues in favour of local knowledge, which she designates as "ethno-science". She questions the claims of a stable objective knowledge, which she argues is as tentative and unpredictable as local knowledge. The method of experimenting in "arbitrarily isolated" surroundings makes the consequent knowledge as a product of belief of a scientific community rather than objective fact. Shiva maintains

exclusion of other traditions of knowledge by reductionist science is three fold: (i) ontological, in that other properties are just not taken note of; (ii) epistemological, in that other ways of perceiving and knowing are not

79 Ibid., p. 214. (emphasis in the original).
80 Ibid., pp. 232-3. (emphasis in the original) Plumwood asserts that ecofeminism is very diverse and at times adopts conflicting positions. In the article, "Feminism and Ecofeminism: Beyond the Dualistic Assumptions of Women, Men and Nature", Plumwood asserts that, "it is essential to acknowledge ecofeminism as diverse and as containing, in varying degrees of development, different and sometimes conflicting positions and political commitments." pp. 12-3 Here, Plumwood also differentiates between two types of ecofeminism, viz., cultural ecofeminism and social ecofeminism. Cultural ecofeminism "stress the links historical, biological and experiential, between women and nature, and see their joint oppression as the consequences of male domination." p. 10. This version prevailed in the 1970s and the first half of 1980s, while social ecofeminism's is emphasis on the social and political aspects of ecofeminism rather than personal and spiritual aspects."p. 10. See Val Plumwood, "Feminism and Ecofeminism: Beyond the Dualistic Assumptions of Women, Men and Nature", The Ecologist, 22, 1, January/February 1992.
recognized; and (iii) sociological, in that the non-specialist and non-expert is deprived of the right both to access to knowledge and to judging claims made on its behalf. All this is stuff of politics, not science. Picking one group of people (the specialists), who adopt one way of knowing the physical world (the reductionist), to find one set of properties in nature (the mechanistic) is a political, not a scientific mode.\footnote{Vandana Shiva, \textit{Staying Alive: Women, Ecology, and Development} (London, 1988), p. 30. (emphasis in the original).}

Shiva questions the differentiation between traditional knowledge as supernatural and modern knowledge as natural. She argues how the latest belief in philosophy of science has transgressed from the stress on verification to knowledge as a product of a specialist community. Hence, ecofeminism, according to Shiva,

removes modern science from its presumed epistemological status, and elevates traditional thought to the status of ethno-science, because it constitutes legitimate ways of knowing and because its claims are expressed in the everyday languages of the people and are influenced by the structures of their languages.\footnote{Ibid., p. 32. (emphasis in the original) Shiva believes, that the ethnosciences, will not only give recognition to hitherto sidelined effective knowledge. But also dissolve “the natural-unnatural divide” which has been a product of modern epistemological assumptions. Hence, she prefers and advocates return to the “ecological thought and action” as underlying in traditional beliefs, e.g. in ethno-medicine and ecological farming.}

Dobson sees, overall three principal ideas espoused and discussed around ecofeminism. Firstly, ecofeminists asserts particular values like nurture and care, which are normally associated with women. It does not matter how these traits are produced whether biologically or socially. We should judge them as positive or negative, for instance the ethic of humility or subservience is to be judged in positive terms or negative. Secondly, ecofeminists locate the domination of nature and women in the same underlying causes: abstract reasoning as evident in technocratic concept of reality. Finally, it is asserted that “women are closer than men to nature and are therefore potentially in the vanguard as far as developing sustainable ways of relating to the environment is concerned.”\footnote{Andrew Dobson, \textit{Green Political Thought: An Introduction} (London, 1990), p. 193. It provides an easy and accessible overview of green political thought.} Echoing a similar viewpoint, Mary Daly argues that if women want to liberate themselves from patriarchic culture, they would have to ally with female nature.\footnote{Mary Daly, \textit{Gyn/Ecology: The Meta Ethics of Radical Feminism} (Boston, 1979).}

\phantomsection\addcontentsline{toc}{section}{References}
Ynestra King also favours ecofeminist thinking, arguing that women stand in between the dividing line. King argues: “we are the less-rationalized side of humanity in an overly rationalized world, yet we can think as rationally as men and perhaps transform the idea of reason itself. As women, we are naturalized culture in a culture defined against nature.”  

Instead of reifying either the rationality of men or emotionalism of women, King perhaps sees them in androgynous terms. However, her thought cannot entirely clear itself of the ambiguities which are characteristic of ecofeminism. As Elizabeth Carlassare remarks, “ecofeminism does not lend itself to easy generalizations. It consists of diversity of positions, and this is reflected in the diversity of voices and modes of expression represented in ecofeminist anthologies.”  

It is better to regard, according to Carlassare, “ecofeminism as a discourse than as a unified, coherent epistemology. Ecofeminism derives its cohesion not from a unified epistemological stand point, but more from the shared desire of its proponents to foster resistance to formations of domination for the sake of human liberation and planetary survival.”

**Anthropocentrism versus Ecocentrism: Locating the Consumer**

As discussed earlier, Raymond Williams argued that our conception of nature depends on our conception of man. Peterson turned it upside down, and argued that in our “idea” of man is involved in our idea of nature and, hence our ethical values and idea of nature and, hence, our ethical values and practice. Anthropocentrists are criticised for what Ehrenfield, calls the “arrogance of humanism”. But the problem with traditional modes of thought (which involves both modernist and postmodernist), as we have discussed in second chapter, revolves around “cogito man”. Ecocentrisks and anthropocentrisks debate on the locus and focus of “value”. Ecocentrisks believe in widening our sense or moral community of value to include nature, beasts and women (in case of ecofeminists). But anthropocentrisks focus on man as the ultimate value. However, ecocentrisks fail to realise that ascription of values is itself an anthropogenic exercise. As Bryan Norton asserts, “moralists among environmental ethicists have erred in looking for a value in living

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87 Ibid., p. 221.
things that is independent of human valuing. They have therefore forgotten a most elementary point about valuing anything. Valuing always occurs from the viewpoint of a conscious valuer... only the humans are valuing agents." On the other hand, Holmes Rolston maintains that "but the problem with the 'no value without a valuer' axiom is that it is too individualistic; it looks for some centre of value located in a subjective self. And we nowhere wish to deny that to such values are sufficient for value. But that is not the whole account of value in a more holistic systemic, ecological, global account."

Rolston argues that value can exist without valuers, as law can exist without lawgivers. But he disregards that one cannot have a homogeneous existent law without a lawgiver. And all laws are a product of human interpretation. Laws exist to subserve human interests, not the other way around; if not, then that system is called fascist. On similar lines, at times ecocentrists are accused of following "environmental fascism". Rolston asserts that "the valuing subject in an otherwise valueless world is an insufficient promise for the experienced conclusions of those who value natural history." The debate between ecocentrists and anthropocentrists is about the expanse of value. But they forget that any philosophy which advocates wider and deeper value is on the face of it attractive. The issue is of clashes over at the existential level. Hence Roger Crisp concludes, "deep ecological views are philosophically correct, but of little practical importance." Mary Midgley is ready to reconcile with anthropocentrism, but without its chauvinism. Midgley in fact favours enlightened anthropocentrism. As Midgley argues, "we need, then, to recognize that people do right, not wrong, to have a particular regard for their own kin and their own species. From a practical angle, this recognition does not harm green causes, because the measures needed today to save the human race are by and

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89 Holmes Rolston, "Value in Nature and the Nature of Value", in Robin Attfield and Andrew Belsey, eds., Philosophy and the Natural Environment (Cambridge, 1994), p. 29. Rolston points out that "perhaps there can be no doing science without scientist, no religion without a believer, no tickle without somebody tickled. But: there can be law without a law giver, history without a historian; these is biology without biologists, physics without physicists, creativity without creators, story without story tellers, achievement without achievers -- and value without valuers." p. 29.
90 Ibid., p.30.
large, the same measures that are needed to save the rest of biosphere.”92 The issue is not, as Mary Midgley points out, between chauvinist anthropocentrism and enlightened anthropocentrism. The philosophers who are anthropocentrists like John Passmore, do not assert for the justification of chauvinist anthropocentrism. The ecocentrists problem is that they analyse the world processes with the lens of restricted value (anthropocentrism) and wider value (ecocentrism). Over time, this proclivity towards looking at all processes in terms of value dealings makes for anthropomorphising nature. For example, man’s cutting a jungle for a housing colony will be seen by an ecocentrists as a prime example of selfish anthropocentrism. But the reverse will not be the case, when for instance natural upheavals causing loss of human life, as in the case of earthquakes. The problem is with the tendency to analyse man-nature dealings in terms of values. However, Val Plumwood thinks it otherwise, arguing that, “there is no good logical reason why we should not speak of the non-human sphere in intentional and mentalistic terms, as we do constantly in everyday parlance, and would hardly be able to avoid”.93 And it’s obvious that deeper, and wider value will be more philosophically attractive, even if of less practical significance. The genesis of this tendency to “value” is the Cartesian conception of cogito man. As already discussed in Chapter Two, man’s existence is defined in terms of “thinking” characteristic. It fails to recognise that man-nature dealings are involved in struggles of existence.

Ecocentrists account for the Cartesian rationality’s goal in understanding, and thereby manipulating, the laws of nature and hence, establishing as phrased by John Passmore, “man as a despot”. But this belief discounts the fact that there are a whole lot of natural processes which man has not understood or is incapable of manipulating, for

92 Mary Midgley, “The End of Anthropocentrism?” in Robin Attfield and Andrew Belsey, eds., Philosophy and the Natural Environment (Cambridge, 1994), p. 111. Midgely points out, ordinarily anthropocentric is taken to mean an exclusive concern with human. As she notes, “what is commonly meant by the word ‘anthropocentric’ today, however, is something much more ordinary and much less intellectually ambitious. It is simple human chauvinism, narrowness of sympathy, comparable to national or race or gender chauvinism. It could also be called exclusive humanism, as opposed to the hospitable, friendly, inclusive kind.” (emphasis in the original), p. 111.

93 Plumwood argues that “the main contemporary function of the concept of anthropomorphism, especially to the extent that it aims to delegitimize intentional description of non-human others.” She ignores the fact that when we attribute intentions to nature, it is prone to our value judgment of being kind and unkind both. We can’t overemphasize one to the exclusion of the others. Hence, the need is to identify their existential nature and not unnecessarily attribute anthropomorphic motives, intentions and values. See Plumwood, n. 51, p. 56.
example earthquakes and tsunamis. The ecocentrists argument for asserting nature as sacred and inviolable, is based on Cartesian cogito man, who thinks of values. Most of the times, this adoration for values stems from Eastern religions, which is at times termed as animism.  

But Plumwood locates environmental destruction in Cartesian rationality and its emphasis on reason. She terms animal rights thinkers like Tom Regan and Peter Singer as neo-Cartesianism, for their belief that, “Descartes got it wrong to the extent that he excluded higher animals from consciousness, but otherwise got it pretty much right.” Instead, the need is for

In the present context of ecological destruction it would be wise for us to adopt dialogical philosophical strategies and methodologies that maximise our sensitivity to other members of ecological communities and openness to them as ethically considerable beings, rather than ones that minimise ethical recognition or that adopt a dualistic stance of ethical closure that insists on sharp moral boundaries and devise that continuity of planetary life.

Hence, the ecocentrists attempts to attribute a sacredness to nature is itself a product of Cartesian rationality, which ignores that human-nature are engaged in a battle of existence which over time has become more sophisticated and comfortable. Moralising this relationship will not help, but only be a source of avoidable confusion and feelings of guilt. Ecocentrist attempts to dismiss man’s efforts to seek to exist, and the consequent reification of nature, under some or other form of mysticism, is not justified. As Grundmann notes, “human beings have no fixed place where they must live; virtually every place on this planet can be inhabited by them... this artificial, human made nature is the embodiment of their necessity to fight against nature, it is the solution of the

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94 Worster sees animism as believing in “the notion, found especially in pagan, polytheistic cultures, that everything in nature, animals, plants, even rocks—has an indwelling spirit or consciousness. This spirit is distinct from and superior to matter; it is distinct from and superior to matter; it is an organizing power that eludes scientific investigation. And like the individual entity, nature as a whole is governed by a vital principle, the Anima Mundi, a mysterious force animating the universe. Animism has commonly been an unacceptable, even heretical, concept in Judeo-Christian religion. A similar idea, vitalism, also endows nature with an immaterial, innate force and is also of pagan origin, in the writings of Aristotle.” (emphasis in the original), see Worster, n. 53, p. 378.

95 Plumwood, n. 51, p. 143.

96 Ibid., p. 145.
apparent contradiction that they are in and against nature.”97 This struggle for existence is exemplified in man’s dealing with nature. Therefore, it should be noted that “nature, as such, is not always beneficial to human beings. It is completely mistaken to identify nature with ‘good’ and technology or human culture with ‘bad’.”98 This contrasts with Vandana Shiva’s adoration of ethno-science. She castigates modern science because “antibiotics create super infection and flood control measures accentuate floods and fertilizers rob soil of its fertility, the problems are not merely between use and misuse of technology. It is rooted in the very process of knowledge creation in modern science, a process which is increasingly turning out to be more preoccupied with the material problems created by intervention through scientific beliefs, than material problem posed by nature itself.”99 Shiva’s tone is critical of modern science and technology and eulogises ethnoscience for its herbal medicines and organic farming.

Passmore terms it as “mystical rubbish, the view that mysticism can save us, where technology cannot”.100 He exclaims that the mystics’ stress on reverting back to the “noble savage” is neither desirable nor efficacious. He argues that the need is to dispense with two extreme interpretations of nature. One is mystical, within sees nature as sacred, emphasising its inviolability. It is argued that nature is divine, and leaving it to take care of itself, doing away with minimum human interference. On the other hand, at the other extreme, is the interpretation which visualises man’s “lordship over nature” where nature can be manipulated at will. But Passmore favours an intermediate interpretation, arguing that “men, uniquely, are capable of transforming the world into civilised state that is their major responsibility to their fellow-men.”101 It should be noted that humans can exist “only by transforming nature [can it] continue to survive.”102

97 Grundmann, n. 38, pp. 115-16.
99 Shiva,n. 81, p. 34.
100 Passmore, n.6, p. 173, Passmore, has serious objections to what he terms as “mystical rubbish”, which seeks to repudiate all that has been achieved by human reason and civilization. He says that the claims of “lordship over nature” are exaggerated which was “interpreted as entailing that nature is wax in man’s hands.”
101 Ibid., p. 178.
102 Ibid., p. 179. Passmore, refutes the views advanced that nature is some sort of a divine entity, enjoining human to cooperate with. “Nature is not a semi divine entity with aims which human beings can share.” Though, Passmore accepts the need for recognition that our existence depends upon nature. And, therefore, should follow environmentally sensitive policies. “To accept it does not commit us, however, to Barry Commoner’s third law of ecology- ‘nature knows best’. It is true enough – that every human intervention
Hence, man-nature is involved in a struggle for existence, which as time proceeds, this existence will be more comfortable and therefore environmentally demanding. Hence, the earlier generation will always term the later generation as consumerist. This attribution is like a duel between conservatives and revolutionaries: one period’s revolutionaries are the conservatives of a later period. Socrates was revolutionary for his society and made to drink hemlock, but is conservative by a contemporary standard.

ENVIRONMENTAL JUSTICE

The key issue pertaining to the clash between anthropocentrisms and ecocentrists is at times the issue of environmental justice. This clash over environmental justice or resources are at times interpreted and reified as paragons of ecocentrism. As Paul Robbins maintains, “polities are inevitably ecological and that ecology is inherently political.”

For example, the Chipko movement in the Garhwal Himalayas is portrayed as romantic sustainable relationship with forests. It has acquired an emblematic and mythic status, asserting it as a paragon of an ecological movement involving complementary relationship between human and environment. Vandana Shiva and Ramachandra Guha are the most voiceferous champions of this interpretation. As Guha maintains,

> From an ecological perspective, therefore, peasant movements like Chipko are not merely a defense of the little community and its values, but also an affirmation of a way of life more harmoniously adjusted with natural processes. At one level they are defensive, seeking to escape the tentacles

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in an ecosystem is likely to disturb the workings of that system in a way that is detrimental to some members of it. So much is true of every change, man-induced or nature-induced. But it by no means follows, as his ‘law’ might seem to suggest, that every such change, or even most such changes, will be detrimental to human beings. Unlike the watches to which he compares them, ecological systems were not designed for man’s use. When men picked seeds off plants and sowed them on cleared ground, they acted in a way that was detrimental to the organic life which was accustomed to feed on the fallen seeds. But only the most unreconstructed primitivist would suggest that the action of agricultural forefathers were destructive of human interests. A nature left entirely alone as ‘knowing best’ would support only the dreariest and most monotonous of lives. Even the primitive hunter found it necessary to burn; the fires he lit have transformed the face of the earth.” p. 185.

102 Paul Robbins, Political Ecology: A Critical Introduction (Malden, 2004), pp.XVI-XVII. Robbins asserts importance of political ecology not as a “body of knowledge” but as “something people do”. He roots for moving away from the visualising all environmental either as “destruction” nature or its social “construction” and towards a view of the production of nature by human and non-human actors, with varying (often serious) normative implications.” (emphasis in the original). This approach is welcome since it imparts a dynamic approach to studying human-environment interaction, away particularly from clautrophobic debate between anthropocentrists, and ecocentrists.
of the commercial economy and the centralizing state; at yet another level they are assertive, actively challenging the ruling-class vision of a homogenizing urban industrial culture. It is this fusion of what I have termed ‘private’ (peasant movement) and ‘public’ (ecological movement) profiles that has lent to Chipko a distinctive quality and strength. Far from being the dying wail of a class about to drop down the trapdoor of history, the call of Chipko represents one of the most innovative responses to the ecological and cultural. It is a message we may neglect only at our own peril.  

On the other hand, Vandana Shiva argues that “the Chipko movement was fundamentally about colonialism, women, and gendered relations to nature.” For Shiva, Chipko was an example of ecofeminism, asserting close relationship between women and nature. Chipko movement was an attempt to revert to the traditional pristine ecosystem, thereby maintaining the reproductive potency of nature and stopping its commercial exploitation. This colonial, commercial exploitation was visualised by Shiva as result of male or masculinist ideology. Paul Robbins terms this interpretation of Chipko movement as “myth”. He argues that Shiva and Guha impose their own romantic notions of the ecology which is devoid of truth in its practice. As Paul Robbins argued, specifically, the “ecological harmony” posited by Shiva and the “social harmony” posited by Guha, those states of society/nature to which these authors assert chipko is seeking a return, are old chestnuts of colonial story-telling. Himalayan “backwardness” and “ecological stability” are both fantasies. The Garhwal region has been integrated into regional and global exchanges since the precolonial period, and its “peasants” have by no means an unstratified and market-isolated population... The local actions that have come to be known as chipko were not, and could not have been, efforts to restore something that never existed. Rather than a struggle to keep trees from being cut down and defend ecological ethnic identity, the chipko actions of 1973 were geared towards protesting against the state forest department’s allotment of forest cutting to large timber merchants rather than to local wood cutters, whose industrial contract allotments were abandoned in favor of a new concessionary system. The struggle, therefore, was not to maintain traditional preservation of forests, but instead to locally capture the from of value coming from a highly politicized forest environment. Rather than rejecting modernization, markets, or even the state, Garhwal activists sought revenue from forest

104 Ramachandra Guha, *The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya* (NewDelhi, 1991), p. 196. Guha’s main, aim is to link lower class movements with ecological issues, which he terms as “ecological landscape of resistance.” Through this ecological study of history he points capitalism endeavoured to usurp and destroy traditional ecological sound relationship.

105 Shiva, n. 81, p. 194.
exploitation, but *on their own terms*. This central fact, so important to local people is incompatible with the romances of *chipko* narratives, and is therefore forgotten.\(^{106}\)

Hence, the issues of environmental justice come to occupy a salient position in any discussion over environmental matters. But the linkage between environment and justice is hardly given importance. At times, the losing side couches its grievances and opposition in terms of elaborate romantic ecological semantics which seeks to underplay the background issue of distribution. As Peter Wenz also maintains, the issues of distributive justice has not often been linked to environment, in comparison to others.\(^{107}\)

According to Peter Wenz, issues of environment recognise no boundaries, they spill over across international boundaries but also across generations living and yet to come. Therefore, environment and distributive justice are closely interlinked. Issues of justice acquire salience, essentially when resources to meet the needs and wants of people become scarce. And, thus issues of scarcity leads to concern over distribution. Since all consumption is resource based, global consumerist society has to grapple with issues of distribution. Wenz cites the example of *Tragedy of Commons* argued by Garrett Hardin which posits that overgrazing (or overconsumption) of the Commons has to be limited to prevent its destruction. This regulation of resource can only be done by issues of distributive justice.

Wenz argues that restraint on polluting behaviour can only be practiced by following principles of justice. In fact, justice was at issue when the developing world disowned their culpability for global pollution, arguing that it was industrialised countries which are primarily responsible for global pollution. The responsibility of checking pollution therefore rests with the developed world. Emphasising justice, Wenz notes:

Thus, because social solidarity and the maintenance of order in a relatively free society require that people consider their sacrifices to be justified in relation to sacrifices of others, environmental public policies will have to


\(^{107}\) Peter Wenz, *Environmental Justice* (Albany, 1988). As Wenz points out that maintenance of environmental stability requires restraint and sacrifice from others. Issues of justice are inevitably intertwined with distribution of this restraint. Big dams, according to environmental activists favour urban areas. Also, burning coal with high sulphur content poses risks of acid rain neighbouring areas.
embody principles of environmental justice that the vast majority of people consider reasonable.\textsuperscript{108}

Robert Bullard, terms environmental injustice as environmental racism.\textsuperscript{109} Bullard points how coloured people (Asians, African Americans, Native Americans, Latinos, and Pacific Islanders) are at the receiving end of environmental pollution. Bullard argues that there is practiced environmental racism inside America and “toxic colonialism” abroad. He notes the limited character of mainstream environmentalism, which has predominantly focused on wildlife preservation, resource conservation, pollution control and birth control. Mainstream environmentalism has ignored the socially iniquitous nature of environmental degradation. Hence, “the environmental crisis can simply not be solved effectively without social justice.” Similarly Vandana Shiva castigates the whole “development” as a project of western patriarchy, which is against nature, women and third world countries.\textsuperscript{110}

The issues of environmental justice are being played out at the global level, for instance in the debate on the issue of export of toxic waste to the developing world. Dale Jamieson points out, “questions about global environmental justice are raised when rich countries export toxic wastes to poor countries, sell pesticides to them that have been banned domestically or make preservationist demands that would affect their prospects of development.”\textsuperscript{111} Also, issues of over consumption as a form of injustice are also being argued about prominently. As Ramachandra Guha points out, the genesis of global ecological problems can be traced to the “disproportionate share of resources consumed

\textsuperscript{108} ibid., p. 21.
\textsuperscript{109} Robert Bullard, “Environmental Racism and the Environmental Justice Movement”, in Robert Bullard, ed., \textit{Confronting Environmental Racism: Voices from the Grassroots} (Boston, 1993). Bullard castigates American history as steeped in white racism. This racism continues and is exhibited even in the issues of environmental degradation. Where coloured groups are more at the risk of environmental pollution. Bullard sees it as an example of internal colonialism.
\textsuperscript{110} See Shiva, n. 81. Shiva asserts that the western model of development itself is problematic. Where accumulation of capital and commercialisation of economy is in binary opposition with poverty and deprivation. Hence, development is only continuation of earlier colonialism by other means. Hence, “development was thus reduced to a contribution of the process of colonization; it became on extension of the project of wealth creation in modern western patriarchy’s economic vision, which was based on the exploitation or exclusion of women (of the west and non-west), on the exploitation and degradation of nature, and on the exploitation and erosion of other cultures. “Development could not but entail destruction for women, throughout the Third World, women, peasants, and tribals are struggling for liberation from development just as they earlier struggled for liberation from colonialism” pp. 1-2.

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by the industrialized counties as a whole and the urban elite within the Third World.”\textsuperscript{112} Similarly, environmental activist Arundhati Roy, opposing the construction of the Sardar Sarovar Dam on the river Narmada, raised the issue of environmental justice issue involved on in the displacement of a large number of people and the unpredictable ecological aftermath. She notes, “big dams are to a nations ‘development’, what nuclear weapons are to its military arsenal. They are both weapons of mass destruction. Both weapons governments use to control their own people.”\textsuperscript{113} Roy showcases the ethnic “otherness” of the displaced. In fact, out of the total displaced, 57.6 per cent are tribals.\textsuperscript{114} As Roy argues, “the ethnic ‘otherness’ of their victims takes some of the pressures of the nation-builders. It’s like having an account where someone else plays the bill. People from another country. Another world. India’s poorest people are subsidizing the lifestyles of her richest”.\textsuperscript{115} This same quest of environmental justice is an issue being contested in the international arena.

As Carolyn Merchant points out, “environmental justice entails the fulfillment of basic needs through the equitable distribution and use of natural and social resources and freedom from the effects of environmental misuse, scarcity, and pollution.”\textsuperscript{116} Global environmental policies grapple with the issue of fixing of responsibility and sharing of burdens. Hence the phrases like “polluter pays principle” and “common but differential responsibilities” abound in this literature. In fact, salience of environmental issues at the international level got an impetus over claims of Sweden that acid precipitation in its territory was due to sulphur dioxide emissions in Britain and Germany. Sweden termed it as a form of intervention. While on the other hand, Britain till the 1980s was opposed to any international attempts to control sulphur dioxide in its emission. Britain said it would brook no violation of its sovereignty. This issue got prominence in the 1960s, but it was

\begin{itemize}
\item \textsuperscript{112} Ramachandra Guha, “Radical Environmentalism and Wilderness Preservation: A Third World Critique”, \textit{Environmental Ethics}, 11.1, 1989, pp. 71-83.
\item \textsuperscript{113} Arundhati Roy, “The Greater Common Good,” \textit{Frontline}, New Delhi, 4 June, 1999.
\item \textsuperscript{114} According to a study by Indian Institute of Public Administration, on an average 44, 182 people are displaced on construction of each big dam-India at the movement has around three thousand and three hundred big dams. Thus, the total number of people displaced comes to around 14.58 crores. See O. Mishra, P.V. Unnikrishnan and M. Martin, “India”, in J. Hampton, ed., \textit{Internally Displaced People: A Global Survey} (London, 1998). Satyajit Singh gives the figures of tribals displaced in various projects undertaken in India. Analysis of the figures show predominantly displaced are tribals. Satyajit Singh, \textit{Taming the Waters: The Political Economy of Large Dams in India} (Delhi, 1997).
\item \textsuperscript{115} See Roy, n. 113.
\end{itemize}
framed largely in “international” terms, where the Nordic countries accused other countries of “exporting” pollution to “downwind” states. Pollutants were deemed to be flowing from Britain and parts of continental European countries to the Nordic countries of Finland, Norway and Sweden. One author terms it as a “chemical war” among the nations of Europe. Later on, the “epistemic community” dealing with the acidification problem came to realize that it was a transborder problem that needed solution at the pan-European level. Hence, the LRTAP (Long Range Transboundary Air Pollution) was agreed on under the auspices of the United Nations Economic Commission for Europe (UNECE). This was an example of successful conclusion of a transboundary environmental issue, symptomatic of pan-European identity but also reinforcing it.\(^{117}\)

Similarly, emphasising the interlinkage between justice and global warming, Paterson asserts the need for agreement on global warming arrived at through principles of justice. Since, “most of the literature starts with already formed conceptions of justice or equity and proceeds with a technical discussion of how to implement it, reflecting the policy-oriented concern of most discussions of global warming”.\(^{118}\) Henny Shue also believes in the “unavoidability of justice”. He repudiates the belief which holds “climate now and justice later”. Shue doesn’t believe that rational bargaining will lead to justified outcomes. Issues of justice are inevitably tied with questions of global warming. Particularly so since green house gas emissions of the developing world are due to the meeting of subsistence and vital needs. That is, what Shue terms as “vital interests-survival interests”. Shue rhetorically argues, “justice does not permit that poor nations be

\(^{117}\) Stacy D. Van Deever, “Ordering Environments: Regions in European International Environmental Cooperation”, in Sheila Jasanoff and Marybeth Long Martello, eds., \textit{Earthly Politics: Local and Global in Environmental Governance} (Cambridge, 2004). Van Deever, notes that scientific community has key role in not only at arriving at solution to environmental issues, but in producing a regional identity. He question the traditional international relations scholarship for seeing scientific knowledge as providing input to environmental negotiations. “International relations scholarship treats scientific and technical advice as a kind of “input” to international policy-making processes as a vehicle for bringing state actors to consensus positions or as an important influence on agenda setting processes.” p. 309. Instead, VanDeever asserts that, “scientific and technical experts are particularly important interpreters of “regioness”, because they frame their research and understanding of the natural world in regional terms... In this way, knowledge making within international environmental regimes helps to create new, in this case “regional”, notion of community, and communal space”. pp. 312-13.

told to sell *their* blankets in order that rich nations may keep *their* jewellery.”

He voices the similar sentiments as argued by developing countries at the World Commission on Environment and Development, where developing countries stressed their need for development to meet the basic needs. In fact, when developed world stressed the problem of population growth of the developing world, developing countries castigated the high consumption levels of developed world. *Our Common Future* (1987) recognised “life styles’s” threat to ecological sustainability. It said, “some consume the Earth’s resources at a rate that would leave little for future generations.” It further argued, “living standards that go beyond the basic minimum are sustainable only if consumption standards everywhere have a regard for a long-term sustainability.”

### TABLE 2

**Per capita Consumption of Resources**

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<thead>
<tr>
<th>Resource</th>
<th>India</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (Kg Oil equivalent)</td>
<td>477</td>
<td>7,956</td>
</tr>
<tr>
<td>Meat (kg)</td>
<td>4</td>
<td>122</td>
</tr>
<tr>
<td>Paper (kg)</td>
<td>4</td>
<td>293</td>
</tr>
<tr>
<td>Water (m³)</td>
<td>588</td>
<td>1844</td>
</tr>
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In fact, consumption was the issue in discussion of green house gas emission limits in the Kyoto Protocol. The United States was unwilling to enter into agreed quantifiable targets. The North-South divide was predominant, where Southern countries wanted the developed countries to set aside resources to facilitate a cap on greenhouse gas emissions. This they did by setting up the Global Environmental Facility which enshrined the principle of “polluter pays”. Further, the debate was over luxury emissions and subsistence emissions. As Jamieson noted, that,

> Those who promote this idea of global environmental justice argue that in the course of becoming rich the countries of the North incurred an environmental debt which they now owe to the countries of the South. The

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rich countries polluted the air, depleted the ozone, reduced biodiversity, and threatened the stability of the global climate. Indeed many would say that these environmental debts are the necessary costs of development and not just its inadvertent byproducts. The countries of the North became rich by exploiting the environment. Now that they are rich these same countries place a very high value on environmental protection. Environmental commodities are more precious and vulnerable than ever because of the insults that the environment has already suffered. However, instead of acknowledging their environmental debt and arranging a payment plan, the countries of the North are demanding further sacrifices from the countries of the South. In order to help stabilize the climate Brazil not supposed to develop Amazonia. India is expected to forgo the benefits of refrigeration rather than release ozone depleting chemicals into the atmosphere and Indonesia is supposed to devote some of its scarce land to habitat for the Java Rhino rather than using it in productive activities for the benefit of its burgeoning human population. From the developing world it looks like those who had the party expect those who didn’t to pick up the tab. Indeed, it is even worse than this. The party is still going on in the rich counties of the North. Poor people are expected to forego necessities while the consumerism of the rich continues to increase.\footnote{121}

Issues in differential allotment of green house gas emission targets are debated over questions of methodology. The World Resources Institute (WRI) calculates emissions at the country level and thus arrived at the conclusion that the United States, the erstwhile Soviet Union, Brazil, China, India and Japan were the highest emitters.\footnote{122} But Agarwal and Narain contest the methodology used by WRI, instead favour per capita calculation of green house gas emission.\footnote{123} On this method, developing countries stay far behind the developed countries because of their subsistence lifestyle. Shue favours a method that would “allow every human being an equal minimum level of green house-gas emission.”

H.P. Young’s idea of a just distribution of emissions is guided by the principle of “sharing of burden”.\footnote{124} That is, sharing of burden in the reduction of emissions. Young gives three principles on carbon emission. Firstly, where “everyone is eligible for exactly

\footnote{121 Jamieson, n. 111, pp. 203-04. (emphasis added)}
\footnote{122 World Resources Institute, World Resources 1990-91 (Washington D.C, 1991).}
\footnote{123 Anil Agarwal and Sunita Narain, Global Warming in an Unequal World – A Case of Environmental Colonialism (New Delhi, 1990).}
\footnote{124 H.P. Young, Sharing the Burden of Global Warming (College Park, 1991).}
the same number of permits.”\textsuperscript{125} Secondly, emission targets are to be decided on the basis of past emissions. Countries, so to speak, have incurred cumulative debt. Thirdly, is the “status quo doctrine”. That is, any principles concerning reduction of emissions should see present levels of emission at the base line. No outright absolute reduction in emission can be argued, but only in the way where emission reduction can be seen as “sharing in the burden”. Emission targets are to be arrived as proportional reduction of emissions, where this is distributed according to the proportion of green house gases emitted. Young favours “a mixture of the first and the last. He suggests that the first is ultimately the fairest but if implemented immediately would place unjust burdens on the rich, so a phasing in of an egalitarian position over time, starting from the status quo position, would be the most just”.\textsuperscript{126} Grubb and others put forward the possible basis of distribution of emission targets.\textsuperscript{127} They are ‘polluter pays’ rationales based either on current emissions or historically accumulated contribution to global warming; an equal entitlements approach under which all individuals have an equal right to use the atmospheric commons; the argument that each participant should shoulder a ‘comparable’ burden based on their situation, the idea simply that the distributional implication of any agreement should be taken into account (a position drawing explicitly on Rawls); a conservative position that starts with the assumption that the status quo is legitimate in the sense that present emitters have established some common law right to used the atmosphere as they at present do; and a position which asserts that countries merely have a right to emit at a level which is ‘reasonable’ in terms of enabling them to meet (a fairly generous interpretation of) basic needs (the position adopted by Shue).\textsuperscript{128}

Grubb and others favour an equal per capita entitlement position coupled with current emissions. Though they accept equal entitlement position as ethically desirable, they feel that it can’t be practical. Hence, Young favours the status quo. The formula should involve a mixture of equal per capita emissions and current levels of emission, though over time this formula should try to balance itself over to the equal entitlement

\textsuperscript{125} Ibid., p. 7.
\textsuperscript{126} Young, n. 124, p.185. (emphasis in the original)
\textsuperscript{128} Shue, n. 119, p. 185.
principle. He repudiates the argument on "comparable burdens", since it will result in haggling over a host of intricate arguments, emphasising particular activities as desirable or inevitable. Also, historical culpability for emissions, according to Grubb, can't be given credence since, past emissions can't be calculated accurately. Grubb and others also deem the idea of equal entitlements as impractical since it will involve large resource transfer from the rich to the poor, which is unlikely to be accepted by the Northern countries.

Bergesen postulates rights based approach, where the issue is about the emissions levels that each country or individual has the right to emit. The rights can be based on "objective equality; subjective equality; relative equality; rank order equality; and equal opportunity."129 Objective equality posits that each individual or country has equal entitlements for emission of green house gases while, equal opportunity implies "reasonable emissions", where one would not be able to emit so much that it violates the right of others to emit. This position has a striking resemblance to the Lockean position and is very similar to the comparative burdens position, with Bergesen noting the similar objection that "any systems of priority can be easily contested." The other two, relative equality which is ambiguous but looks most like a desert based principle and rank order equality (equality within ranks for example race, gender or income- but not between them), are disregarded by Bergesen as politically impossible and self-evidently unfair."130

The debate over emission levels either at per capita or state level shows consumption as central to the debate. The debate over justice is not over moral equality of persons, but over what principles should govern consumptive levels, thereby deciding on emission levels. As already discussed, the debate is over the principles which explicate how to arrive at mutually agreed emission levels. The United States government opposed acceding to quantified target levels because it will affect consumption, thereby slowing down the economy. The debate over luxury emissions versus subsistence emissions is a debate over consumption. It is being recognised that the consumerism of the North is a problem which has to be reduced. While the developing world is not ready to cap its right to development and consumption of resources, the developed world doesn't want to

129 Ibid., p. 186.
130 Ibid., p. 186.
accede to any international agreement (read Kyoto) which does not bind developing countries like Indian and China by curtailing their green house gas emissions.

Increasingly, voices can be heard over the debate questioning the high consumption levels of the First World. As the United Nations points out, it is evident that the developed countries of the world account for approximately seventy percent of the world total consumption-adjusted population, while only accounting for about twenty four percent of the actual population"… Whilst they only account for about 24 percent of the world’s population, the industrialized countries consume approximately 70 percent of the world's energy (consumption of commercial energy in developing countries is relatively low since requirements are largely met from biomass-based energy resources, such as fuelwood, crop residues and animal wastes 75 percent of metal; 85 percent of wood; 60 percent of food and 85 percent of chemical.\textsuperscript{131}

\begin{table}
\centering
\begin{tabular}{|l|c|c|}
\hline
\textbf{Items} & \textbf{Developing world} & \textbf{Developed world} \\
\hline
Annual per capita & & \\
\hline
Cereals & 246 kg/year & 716 kg/year \\
\hline
Milk & 39 kg/year & 320 kg/year \\
\hline
Meat & 11kg/year & 61 kg/year \\
\hline
\end{tabular}
\end{table}


Simultaneously, the issue has not been restricted to access to resources (both renewable and non-renewable) but also to the absorptive capacity of the environment. As Andrew Hurrell notes, the debate over the global environment has witnessed "a shift from 'resource limits' to 'sink limits'."\textsuperscript{132} Hence, environment justice has not only to contend with the distribution of resources but also with the distribution of the absorptive capacity of the environment. Absorptive capacity refers to the capacity of the environment to absorb green house gases, primarily carbon dioxide as emitted through consumption (both individuals and countries). As Attfield maintains, "there is good reason to regard the absorptive and recycling capacities of the planetary atmosphere as the common


heritage of human kind, goods inherited from the past and worth preserving for our successors.”  

But environmental justice has to contend with the allotment of quotas for emission limits. The December 1997 Kyoto Protocol envisaged the reduction of carbon emission by 5.2 per cent of 1990 levels. Although some in the scientific community argue for an even greater reduction. The agreement at 1990 levels is arbitrary, but it gives an advantage to the countries with high consumption levels in 1990. The year 1990 was agreed upon since it did involve the developed countries cutting, even though slightly. But the developing counties can’t be expected to accede to the cut in emissions, since they have yet to meet even the basic needs of their population. Michael Grubb favours equal entitlement of all present human beings to the absorptive capacity of the planet, but the United States government’s insistence in including developing countries under the Kyoto, is a violation of equal entitlements. As George Bush said,

I’ll tell you one thing I’m not going to do is I’m not going to let the United States carry the burden of for cleaning up the world’s air, like the Kyoto Treaty would have done. China and India were exempted from that treaty. I think we need to be more even handed.

Commenting on the American attitude, Peter Singer notes, “Americans who think that even the Kyoto Protocol requires America to sacrifice more than it should are really demanding that the poor nations of the world commit themselves to a level that gives them, in perpetuity, lower levels of green house gas production per head of population than the rich nations have.”  

The debate over emission targets is basically a debate over levels of consumption. The various ethical positions are basically a debate on whether individuals or states (for example, the United States) have the right to consume at present levels, and as the Third World argues, whether they have a right to increase levels of consumption.

The global consumerist society is limited by the issue of environmental justice. Primarily, environmental justice at the domestic level involves issues of contest over claims of environmental resources as we have already discussed in the examples of the Chipko movement and the Narmada Bachao movement. But at the global level, global

133 Attfield, n.48, p. 177.
warming is an impeding factor in the global consumerist society since current debates are about the methodology by which emission levels are to be decided. At the risk of being repetitive, I would like to state that conflicts over emission levels are a debate about consumption levels. Though ostensibly, the developing world claims its right to development and satisfaction of basic need, at the domestic level the whole paraphernalia associated with globalisation is criticised for engendering unethical consumerism. As Arundhati Roy, in her criticism over Narmada dam, points out, the dam was a conspiracy to deprive tribals and rural people their land, livelihood and culture, to “subsidise the lifestyles of the rich”. Anti-globalisation activists in India paraphrase their movement as a fight for _jal, jungle_ and _zameen_ (water, forests and lands). Anti-globalisation activist Naomi Klein, argues, “the economic process that goes by the benign euphemism “globalization” now reaches into every aspect life, transforming every activity and natural resource into a measured and owned commodity.”

Anti-globalisation activists like Vandana Shiva are against the privatisation of water.

As envisaged in the Kyoto Protocol, Clean Development Mechanism (CDM) and emissions trading are is seen as a fair resolution to the fractious debate over capping and reducing carbon emissions. But Cathleen Fogel sees it as opposed to the interests of the indigenous peoples. Fogel points out that “between 1999 and 2001 most indigenous peoples groups opposed the use of tree planting for carbon sequestration within the CDM. They feared an onslaught of poorly designed projects that would undermine their efforts at self-determination and improved quality of life”. Indigenous peoples argue that they have been sidelined and unrepresented in the elite, technical and scientific discourse in the Intergovernmental Panel on Climate Change (IPCC) and Kyoto Protocol negotiations.

Cathleen Fogel sees global interest in local forests and lands as “global gaze”, which is mechanistic, technical and homogenising. It sees forests as quantifiable carbon sinks. It ignores the interests and contributions of indigenous knowledge towards maintenance and growth of forests. Indigenous people demand their right to participation, which has been denied to them by scientific and technical experts. The intimate

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135 Naomi Klein, _Fences and Windows: Dispatches from the Front Lines of the Globalisation Debate_ (New Delhi, 2002).
relationship of the indigenous people with their forests had been very conveniently ignored. This is due to our adherence to one definition of forest, which ignores the social character of forests. As Fogel maintains, “the abstract definition of a “forest” adopted by governments omits and thus obscures characteristics such as forests’ biological diversity, quality and history of human use, the cultural diversity of communities living in and around forests, or the capacities of local or national institutions to manage forests.”

Hence, they have a “monolingual” definition of forest. Further, forests are seen as “empty spaces” amenable to carbon sequestration and manipulable at will. They are uninhabited and hence there is no need to take local indigenous communities into decision the loop. The indigenous people’s complaint that they are under a do ible attack, both from global warming and the Kyoto Protocol’s remedial methods. As Fogel concludes,

a mechanistic, market-oriented “global gaze” threatens nature and local actors on several accounts. As seen through the Kyoto Protocol, elite global discourses simplify and reconfigure, and then move to standardize and enroll both people and the natural world into largely inaccessible global institutions. Global discourses around the protocol have valued the instrumental and utilitarian while acknowledging few limits. They have marginalized the leaders, cultures and knowledges of local communities and downplayed the risks they face. They have simplified nature and obscured nature. Kyoto Protocol Carbon discourses have a dynamic and reductive power that reshares how people think and act. Through discourse and related practices the “global” enrolls the “local”, but it does so in a static and unidirectional manner; only the “went” must learn from the “global”, it would seem.

The global consumerist society grapples with the ecocentric critics and their inspired environmental movements, espousing violation of environmental justice. Though at the theoretical level the ecocentrists return to primitivism or arcanism may look appealing, but practically is not only impossible but also impractical. However, long term violation of environmental justice can lead to problems of environmental security.

ENVIRONMENTAL SECURITY

Securitisation of environmental issues can lead to problems in global consumerist society. The unravelling of global consumerist society due to environmental reasons is particularly strong, given the expanding discourse of security, which seeks to incorporate
more and more elements into the security lingua. This is evident in the broad delineation into traditional and non-traditional security. Non-traditional security seeks to offset territorial and statist conceptions of security and elevate the individual as the ultimate basis and focus of the security discourse. The Copenhagen school has been a relentless advocates for broadening and deepening of security. The Copenhagen school delineates security into five “sectors”, each have their particular “referent object” and “threat agenda”. “Military” sector is classical security sector where referent object is territorial integrity and threat is of war. The second sector is “political”, where primary concern is with the maintenance of legitimacy of government and threat is in terms of ideology and at substate level. The third sector is “societal” security, where the “identity of a group is presented as threatened by dynamics as diverse as cultural flow, economic integration, or population movements”.

With the salience of global environmental politics, environmental security has become a recurrent lexicon in international relations theory. Though some authors oppose securitisation of environment, since traditionally security has “security dilemma” and “clash of interests” connotations. But environmental issues have been shown to not respect international boundaries, and hence their solution requires a cooperative approach rather than contested or conflictual approach, which the use of the term security suggests. Hugh C. Dyer favours environmental security as a norm, based on values rather than involving clash of interests, as espoused in interest based theory. Dyer argues that

Environmental security arises in changing international context where interdependence in already widely accepted the baseline of international relations, and where shared values such as environmental security are more salient than the particularistic interests (such as national politico military security) of the individual nation states... In this sense, the environment becomes the manifestation of new political values and norms as the detritus of the cold war experience and the international system it bolstered is tossed out. Normative theory is clearly an appropriate theoretical approach to such changing values and emerging norms, in preference to traditional interest-based theories which maintain the categories of nationalism and militarism in their accounts of security.

Furthermore, a normative they is better able to address process of globalization.\textsuperscript{141}

Though environmental threats have shown the inability of states to confront them individually, increasingly environmental issues have undergone securitisation. A prolific literature exists linking security with environment. In fact, the Woodrow Wilson International Center maintains an \textit{Environmental Change and Security Project}. Many war simulations have been conducted, which visualised US military intervention in Brazilian Amazonia to prevent its cutting and hence exacerbating global warming. A great number of scholars do believe in securitisation of the environment. Securitisation refers to "the discursive process through which an inter-subjective understanding is constructed within a political community to treat something as an existential threat to a valued referent object, and to enable a call for urgent and exceptional measures to deal with the threat."\textsuperscript{142} However, scholars like Barry Buzan, Richard Moss and Daniel Deudney are against the linkage between environment and security.\textsuperscript{143} Buzan is against this linkage because environmental threats are generally unintentional. Also Richard Moss argues that the very recourse to "security" gives the idea that state action can prevent it. But a host of global environmental processes cannot be addressed by state intervention. Daniel Deudney asserts that discursive practices of security have been discussed in terms of "us vs. them" dichotomy which is not possible in issues of global environmental problems. Also, Ole Waever argues that "the concept of security is basically defensive in nature, a status quo concept defending that which is, even though it does not necessarily deserve to be protected."\textsuperscript{144}


\textsuperscript{143} For a concise discussion of security and its various dimensions, see Ole Waever, "Securitization and Desecuritization", in Ronnie D. Lipschutz, ed., \textit{On Security} (New York, 1995). Buzan sees environmental security as a basis of international society. Buzan prefers to link environmental security to the economics, arguing, "(it) has the advantage of setting the issue at the heart of the action that is most relevant to it. There might, in the long run, be more advantage to making producers, consumers, taxmen and economists factor environmental costs into their accounting activities, than to arming the state with emergency powers derived from an analogy with war. It might be argued that process-type threats are better met by the process-type remedies of economics, than by the statist solutions of security logic." Cited in ibid., p. 65.

\textsuperscript{144} Ibid., p. 64. (emphasis in the original)
Environmental issues differ in their characteristics, for example in the case of global warming the individual capability of states is difficult to establish. However, there have been war games where a situation has been visualised wherein the US has intervened in Brazil’s Amazon forest to maintain it as a carbon “sink”. The above scholars, questioning environment-security linkage, see war as a means of dispute resolution, e.g. when a coveted territory is seized. War can be resorted to when negotiations breakdown, e.g. acid rain as the effect of neighbour’s activities. As, Waever has argued, “the field of security is constituted around relationships between wills; it has been, conventionally, about the efforts of one will to (allegedly) override the sovereignty of another, forcing or tempting the latter not to assert its will in defense of its sovereignty. The content of concern, in other words, is among strategic actors imbued with intentionality, and this has been the logic around which the whole issue of security has been framed.”\textsuperscript{145} Also, violation of environmental security can lead to exacerbation in conflict. Further, dispute can also erupt over competing claims of resources. As Arthur Westing emphasised, in a world that already has too many people for all to be able to enjoy a standard of living approximating that of the developed nations, a heightened level of competition and dispute over natural resources can be expected in the years to come, especially if consideration is given to the needs of the remaining will creature on earth. Some of these disputes could well become overtly hostile and thus lead to armed conflict. Indeed, given that war has been one of the routine means of achieving national aims, it will be difficult to avoid the outbreak of some wars over natural resources.\textsuperscript{146}

Further, environmental security as an essential ingredient to social and political stability has been emphasised by international relations literature, emphasising the linkage between environmental scarcity and violent conflict. Environmental stability, hitherto taken for granted, is now being recognised as the bedrock of social, economic and political stability. As Myers argued, “in a world of growing shortages, there will be no shortage of further examples of environmentally inspired violence. Whether high profile or low key, local or widespread, distant or next door, recognised as

\textsuperscript{145} Ibid., p.63. (emphasis in the original)
environmentally derived or not”. Myers argues that a number of violent conflicts are
located in the environmental basis, which dislocates people and their livelihoods, leading
to societal and political instability. Myers sees environmental security as “ultimate
security”. Echoing the same concerns the Brundtland Commission’s report, *Our Common
Future*, talked about “environmental security”. Myers argues that “it could hardly be
coincidence that the country with the most devastated environments, EL Salvador, was
also the country with the most political instability and the most violence.” Myers cites
various environmental causes viz., water shortages, soil degradation, deforestation and
climate change as impinging on political and societal stability in myriad ways. Hence,
“national security is no longer about fighting forces and weaponry alone. It relates
increasingly to watersheds, croplands, forests, genetic resources, climate and other factors
rarely considered by military experts and political leaders, but that taken together deserve
to be viewed as equally crucial to a nation’s security as military process.”

Kamieniecki and Granzeier focus on “eco-cultural security”. According to them,
“the notion of eco-cultural security suggests that severe environmental degradation or
resource scarcities can endanger the continued survival of a particular group. Thus
security is not limited to traditional military-strategic concerns, but includes a broader
range of threats to environmental and human well-being and survival. If severe
environmental harm compromises an indigenous group’s fundamental cohesion,
traditional customs, language, and homeland, then a security threat exists.” It is similar to
the violation of indigenous people’s rights as engendered in the Kyoto Protocol,
discussed in earlier section. Emphasising close linkage between environment and peace,
an American environmental activist and expert and former leader of United Nations,
Peter Thacher, remarked that situation is of “trees now or tanks later”.

One of the authors whose linkage between environment and security became very
popular in the American establishment was Robert Kaplan. Kaplan’s article “The Coming
Anarchy” (1994) in *The Atlantic Monthly* argued that environmental degradation induced

p.7.
148 Ibid., p. 147. Myers discusses the environmental basis of political stability of various regions, viz.,
Middle East, Ethiopia, Sub-Saharan Africa, Philippines, Indian Subcontinent, El Salvador and Mexico.
149 Ibid., p. 21.
environmental scarcity combines with arms flow, urbanisation and demographic change is leading to a situation of anarchy as evident in the East African state Somalia.\footnote{Sheldon Kamieniecki and Margaret Scully Granzeier, “Eco-cultural Security and Indigenous Self-Determination: Moving Toward a New Conception of Sovereignty”, in Karen T. Liflin ed., The Greening of Sovereignty in World Politics (Cambridge, 1998), pp. 261-2. Authors argue for a reappraisal of sovereignty, and softening it to recognise that dealing with environmental issues require relinquishing of control both at the international and domestic level. Authors at the domestic level, argue for “full recognition of indigenous sovereignty and protection of cultural rights”. And, the indigenous people rights to self-determination should be recognised.} This article particularly gained salience in view of American intervention in Somalia. Kaplan argued that this trend is being reflected in overall world, and North can’t remain untouched from it.

Kaplan’s essay was based to an extent on Thomas Homer-Dixon’s thesis that, “environmental scarcities are contributing to violent conflicts in many of the developing world.”\footnote{Robert Kaplan, “The Coming Anarchy: How Scarcity, Crime, Over population, and disease are rapidly destroying the social fabric of our planet”, The Atlantic Monthly, February, 1994. Later Kaplan converted this article into a book, The Coming Anarchy: Shattering the Dreams of the Post-Cold War (New York, 2000). Kaplan’s essay became very influential in the Clinton presidency’s first term. A copy of the article was sent to every US embassy. Clinton and Al Gore saw it as a correct reflection and prognostication of the crisis which they had experienced in Somalia and facing in Haiti.} Homer-Dixon envisages “environmental scarcity” as having caused by three sources. First, is environmental change which refers to “a human-induced decline the quantity or quality of renewable resources that occurs faster than it is renewed by natural resources.”\footnote{Thomas F. Homer-Dixon, “Environmental Scarcities and Violent Conflict”, International Security, 19, 1, Summer, 1994, p.6.} The other two, are population growth and unequal and social distribution of resources. Incidentally, Homer-Dixon does not mention unsustainable consumption as one of the contributing factors of “environmental scarcity”. The literature on environmental security tends to disregard global consumerist society, where consumerism is key to human existence, high demands on natural resources will be made to maintain and augment present levels of consumption. With hitherto marginalised sections like indigenous people getting into the market economy, demands on natural resources both as an input in goods and as a source of finance, will increase. Particularly with the contemporary consumerist ways of existence becoming more resource intensive, this issue can’t be sidelined. For example, once a Coca-Cola executive in a company meeting said, our competition is not with the other cold drink giant Pepsi, but with water. Hence, we have to position Cola as replacement for water. More natural resources go into
making of a glass of Coca-Cola than a glass of water. Controversy had been waging over Coca-Cola’s drawing of ground water, in Palakkad district of Kerala. The local people through their Panchayat litigated in Kerala High Court against Coca-Cola for over exploiting groundwater.\textsuperscript{153}

Homer-Dixon postulates that the various sources of environmental scarcity interact to form two patterns of behaviour, “resource capture” and “ecological marginalization”. Resource capture occurs when “a fall in the quality and quantity of renewable resources can combine with population growth to encourage powerful groups within a society to shift resource distribution in their favour”.\textsuperscript{154} Ecological marginalisation occurs, when “unequal resource access can combine with population growth to cause migration to regions that are ecologically fragile, such as steep upland slopes, areas at risk of desertification and tropical rain forests. High population densities in these areas combined with lack of knowledge and capital to protect local resources, causes severe environmental damage and chronic poverty.”\textsuperscript{155}

Environmental security focuses on the interlinking of various causes, leading to violent outcomes, both domestic and inter-state, unlike environmental literature which focuses on climate change at the systemic level and its effect on planet earth. Kaspersion terms it as the first kind of risk. However, Kaspersion and others argue that,

But a second type of risk, which we have termed cumulated environmental change, may well eclipse systemic changes in both long-term and (certainly) short-term consequences. This type of global environmental change refers to the accumulation of regional and localised changes that are distributed widely throughout the world. Such changes not only involve the degradation of ecosystems such as coral reefs, groundwater resources rain forests but also entail the accumulating contamination of air, water, and land as well as mounting deforestation and soil loss under the pressures of increasing population, economic growth, and the global embrace of value of high consumption.\textsuperscript{156}

\textsuperscript{153} Ibid., p.8.
\textsuperscript{154} \textit{Frontline, New Delhi}, 29 August 2004.
\textsuperscript{155} Homer-Dixon, n. 152, p. 10.
The authors maintain that the “cumulative global environmental change” can’t be expressed concretely in “existing databases”. But their fallout is interspersed with environmental, social, political and cultural changes. Because of environmental change reacting and interacting with local factors, “uncertainty” is the distinguishing feature in gauzing their affects. This uncertainty is combined with vulnerability. Since environmental degradation is often “exported” from one region to another, regional and local studies of global environmental change need to operate in an “open system” context. The use of concepts such as “carrying capacity”, which characteristically treat the region as a closed system, fundamentally limits useful analyses and often produces misleading inferences.”

Hence, many violent clashes which have their sources ultimately in the environment are seen as clash among ethnic and religious groups. Homer-Dixon, similarly, emphasising differences of environmental basis of conflict argues that the,

environmental scarcity… can contribute to civil violence, including insurgencies and ethnic clashes … the incidence of such violence will probably increase as scarcities of cropland, freshwater, and forests worsen in many parts of the developing world. Scarcity’s role in such violence, however, is often obscure and indirect. It interacts with political, economic, and other factors to generate harsh social effects that in turn help to produce violence.\footnote{158}

Global consumerist society is based on globalising consumption and all consumption is resource based. When the provisions of these resources is limited it can lead to conflicts, which are expressed in various forms viz., ethnic and inter-state with literature pointing to links between environmental scarcity and violent conflict, the threat is particularly acute.

One of the prominent examples of environmental scarcity leading to conflict between states is the Senegal River Basin Project. Conflict erupted between two West African States, Mauritania and Senegal. Olivia Bennett terms it as a classic case of “green war”.\footnote{159} Mauritania was a former colony of the French. It comprised of

descendents of the Almoravids, who were rulers of Morocco and some parts of Spain. Mauritania began its existence having territorial disputes with Spain and Morocco. Mauritania is largely arid desert and semi-arid grassland with a population growth of 2.9 percent, a study of Food and Agriculture Organisation (FAO) revised serious doubts over Mauritania’s ability to meet its food requirements in the near future. Its large arid and semi-arid grassland was juxtaposing at its southern border, Senegal Valley and some Oases. Mauritania is composed of Moors and black Africans. Moors are the ruling class, and constitute about eighty per cent of the total population of the Mauritania. The black African form about twenty percent of population. Moors look-up to the North Arabs, while black Africans feel towards the Senegal and Mali.

Senegal is the other West African state surrounded by Mauritania, Mali and Guinea. It has a large area of agricultural land, but it faces the spectre of persistent wind and water erosion which leads to loss of upper soil, making it nutrient deficient. Over irrigation leading to salinisation. The Senegal River Valley demarcates the boundary between Senegal and Mauritania.

It 1972 an organization called OMVS was set-up to develop the Senegal river basin. It was an example of one of the finest legal agreements between states. The parties to the state were Mauritania, Mali and Senegal. However, after about seventeen years, the agreement broke down, leading to the breaking of diplomatic relations between Mauritania and Senegal in between 1989-92. Homer-Dixon sees it as an example of “resource capture”. Robert Mandel interprets it as a premonition of water wars, arguing that “water wars may well be just around the bend.”

The importance of the river Senegal and consequently Senegal River Project varied for the participating countries. Senegal’s prime agricultural produce was groundnut. Hence, it was a groundnut economy. Oscillating between overproduction of groundnut and drought, it sought to diversify its agricultural produce basket by growing cereal crops, thereby, achieving food self-sufficiency.

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Mauritania, on the other hand, was mineral rich: it exported iron one. The other major export was fish. Since much of the country was desert, it therefore wanted Senegal River Project to help in production of food, so as to avoid the import of much of its food requirement. Mali, the third participating country, did not depended on Senegal River Project for food. But it saw its importance as a source of power, to help in exploitation of the mineral deposits in western part of the country. It could also be used as a communication channel to the ocean, since Mali was land-locked. Mali’s dependence on the Senegal river for agriculture was minimal, because it had another source in the Niger Valley. Probably this explains why it was the Senegalese and the Mauritanians who fought.

The development of the Senegal river basin attracted attention of the ruling group of Moors of the Mauritania. They were expecting a windfall of the opportunities in the area, changed legislation to abrogate the rights of the black African to farm, herd and fish along the river bank. In the year 1989 Mauritanians killed a number of Senegalese farmers in the river basin. This led to a spiral of violence. About, 17,000 shops owned by Moors were burned down in Senegal. In the neighbouring countries several people were killed leading almost to breakout of war, which ultimately resulted in breaking of diplomatic relations. The Mauritanian ruling class stripped the black Mauritanians living around the river valley of citizenship. About, seventy thousand of them were expelled by force to neighbouring Senegal. Many of them still live in camps as stateless refugees.

Although the point can be made that neither Senegal nor Mauritania are consumer economies. But the point sought to be emphasised here is that environmental scarcity can lead to exacerbating of existing animosities. Homer-Dixon accepts that there are no direct causal linkages between environmental degradation and conflicts. He maintains that “scarcity’s role in such violence however, is often obscure and indirect.” Richard Matthew, on similar lines, argues for environmental security as a “broader theory [which] has roots in antiquity [historical conditions] and speaks to the pervasive conflict and security implications of complex nature-society relationships. The theory places incidents of violence in larger structural and historical contexts while also specifying
contemporarily significant clusters of variables.” But with consumerism stress on resources might interact with other faultlines leading to conflict.

Many international disputes have arisen over competitive claims on exclusive economic zones and fishing rights. The most prominent example is of the Anglo-Icelandic clash of 1972-73. Also, the Malvinas-Falkland conflict in 1982 between Britain and Argentina was, according to Westing, partly due to control over offshore fishery resources. A number of cases can be cited where claims over resources have resulted in conflicts. As Anne H. Ehrlich, Peter Gleick and Ken Conca believe, “the Gulf War in 1990-91 was clearly a conflict over access to oil resources.” Though at times stress on environmental or resource as the primal cause of majority of conflicts can look methodologically fetishist, but there is basal background to a number of conflict. However, it would be difficult to establish one-to-one mapping in a network of causal chain. As Percival and Dixon argue, “environmental scarcity is always enmeshed in a

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162 Richard A. Mathew, “In Defense of Environment and Security Research”, Environment Change and Security Project, Issue 8, Summer 2002, pp. 119-120. Mathew defends the environmental security research, and its continued worthiness. For it has been attacked by critics as simplistic and ambiguous. As critics argued the environment does not have a monopoly as cause of violent conflicts. Mathew, argues that this tendency it due to a simplistic understanding of Homer-Dixon’s thesis. Since, as Mathews, points out, Homer-Dixon emphasises indirect linkage between environment scarcity and violent conflicts.

163 Anne H. Ehrlich, Peter Gleick, and Ken Conca, “Resources and Environmental Degradation as Source of Conflict,” 50th Pugwash Conference on Science and World Affairs, Cambridge. 3-8, August 2000. Authors cited a number of historical examples, where resource has been one of the causal factors in engendering conflicts. “Examples include Mesopotamia and parts of the Middle East, the Maya of Central America, the Khmer of Southeast Asia, the Anasazi of the US Southwest, among many others”. Authors cite the case of Easter Island, which when resource rich hosted a flourishing civilization. But as the time progressed and resources were depleted and degraded was break And, “the result was famine and social breakdown that included the formation of rival clans, warfare, and cannibalism. The population had shrunk from a maximum of as many as 20,000 to scarcely 2000 by 1722, when the first Europeans arrived.” Ehrlich, Gleick and Conca, see stress on resources as compelling Western Europe’s look out for new territory and resources. Even Hitler was guided to look for a “Lebensraum” (living space). Also see, Michael Klare, Resource Wars: The new landscape of global conflict (New York, 2001).

164 Since, just because in much of environmental security literature a delineated causal chain network is missing, it has been prone to criticisms for methodological fetishism. That is, scholars are isolating one of the many causes and reify it as the cause of the conflict. As Norman Myers argues “water shortages contributed to the government storming of the Sikh Golden Temple in Amritsar in 1984.” See Myers, n. 147, p. 110. However, to be fair to the environmental security researchers, they accept that environmental scarcity intersperses with other causes to contribute to conflict. As Peluso and Watts, maintain that “conditions of resource scarcity do not, contrary to the claims of Homer-Dixon and others, have a monopoly on violence”. Nancy Lee Peluso and Michael Watts, Violent Environments (Ithaca, 2001), p.5. Peluso and Watts also question the exclusive emphasis of environmental security literature on renewable resources.
web of social, political and economic factors, and its contribution to violence is difficult to disentangle from these other factors.”

One of the most salient renewable resources is freshwater. Increasingly it is occupying a prime place in the environment security literature, as evident in the usage “hydropolitics”. Disputes over sharing of freshwater resources are being forecasted to grow more frequent and violent. Freshwater is a basic need for human survival. Rapid increase in consumption patterns, which are becoming water intensive, and the spread of industrialisation and urbanisation, with the onset of globalisation, is leading to shortage of water. Urbanisation is rapidly spreading across the world. Forty eight per cent of the world’s population are living in urban areas.\(^{166}\) Forty per cent of the low and middle-income countries and eighty per cent of the high income countries are living in urban areas. Europe and Latin-America are almost urbanised at the same level, having around seventy six per cent urban populations. With increasing urbanisation, demands on water will increase. In the period 1990-95, the freshwater demand arose six fold, while the world population grew at around three per cent.\(^{167}\) In 1997, the *United Nations Comprehensive Assessment of Freshwater Resources of the World* stated that about one-third of world’s population faced medium to high water stress. As *World Development Indicators* 2004 notes water is crucial to economic growth and development and to the survival of both terrestrial and aquatic systems. But more than 1 billion people lack access to safe water, and more than 430 million live in countries facing chronic and widespread water shortages- with water stress (less than 1, 700 cubic meters of freshwater available per person a year) or water scarcity (less than 1,000 cubic meters). Global per capita water supplies are declining, further growth in population and economic activity will add to the demand for water, and by 2050 the share of the world’s population facing water stress could increase more than five fold. These trends pose a significant challenge for Meeting the Millennium Development Goal of having the proportion of people without sustainable access to safe drinking water by 2015.\(^{168}\)

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\(^{166}\) *World Development Indicators*, 2004, The World Bank, Washington DC.


\(^{168}\) n. 166, p. 114.
About seventy percent of the freshwater is used for irrigation in agriculture. According to a United Nations (1997) estimate, the requirement to double food production to meet the food requirement by 2025 will need an annual increase of irrigation water by thirty per cent. Also, the share of industry in freshwater resources is about twenty two per cent, which is bound to increase with globalisation and industrialisation, gaining impetus in hitherto underdeveloped economics like India and China. Coupled with this is increasing urbanisation, which will increase the demand for water substantially. In fact, by 2025, round fifty six per cent of the population will be living in urban areas. The rapid increase in demand of freshwater will combine with increasing water pollution to pose a very serious survival issue for human society. Hydropolitics issues may become especially unpredictable, with around 215 international rivers and about 300 ground water basins and aquifers shared between countries. “Water wars,” to use Robert Mandel’s term, may be a fact in the near future.\textsuperscript{169} Also, “more than 70 water-related flash points have been identified mainly in Africa, Middle East and Latin America.”\textsuperscript{170} As Ehrlich, Gleick and Conca argue, “fresh water is very widely shared because political borders rarely coincide with watershed boundaries. At the international level, over 260 river basins are shared by two or more nations. But even countries with few or no internationally shared rivers or aquifers. Often have internal water disputes among states, ethnic groups, or economic classes trying to gain access to additional water supplies”\textsuperscript{171}.

\textsuperscript{169} Annual Report, Asian Development Bank, 1999, p.8
\textsuperscript{170} Ibid., p. 11.
\textsuperscript{171} See Ehrlich, Gleick and Conca, n. 163.
### TABLE-4
INTER-STATE RIVERS AND SHARING COUNTRIES

<table>
<thead>
<tr>
<th>River</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euphrates /Tigris</td>
<td>Syria, Turkey, Iraq</td>
</tr>
<tr>
<td>Ganges-Brahmaputra</td>
<td>Bangladesh, Nepal, India, China, Bhutan</td>
</tr>
<tr>
<td>Jordan</td>
<td>Jordan, Israel, Lebanon, Palestine, Syria</td>
</tr>
<tr>
<td>Mekong</td>
<td>Cambodia, Laos, Thailand, Vietnam, Myanmar, China</td>
</tr>
<tr>
<td>Nile</td>
<td>Sudan, Egypt, Ethiopia, Burundi</td>
</tr>
<tr>
<td>Plata</td>
<td>Brazil, Argentina, Bolivia, Paraguay, Uruguay</td>
</tr>
<tr>
<td>Indus</td>
<td>Afghanistan, China, India, Pakistan</td>
</tr>
<tr>
<td>Danube</td>
<td>Albania, Austria, Bulgaria, Croatia, Czech, Republic, Germany, Hungary, Italy, Moldavia, Poland, Romania, Slovakia, Slovenia, Switzerland, Ukraine, Yugoslavia</td>
</tr>
<tr>
<td>Salween</td>
<td>China, Myanmar, Thailand.</td>
</tr>
</tbody>
</table>

### TABLE -5
AVAILABILITY AND USE OF FRESHWATER

<table>
<thead>
<tr>
<th>Country / Region</th>
<th>Freshwater Resources Per capita (m³)</th>
<th>Freshwater withdrawal total (% total water resources)</th>
<th>(% total water resources) agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afghanistan</td>
<td>2,322</td>
<td>40.2</td>
<td>99</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>8,922</td>
<td>1.2</td>
<td>86</td>
</tr>
<tr>
<td>Bhutan</td>
<td>111,633</td>
<td>0.0</td>
<td>54</td>
</tr>
<tr>
<td>India</td>
<td>1,819</td>
<td>26.2</td>
<td>92</td>
</tr>
<tr>
<td>Maldives</td>
<td>N.A.</td>
<td>N.A.</td>
<td>0</td>
</tr>
<tr>
<td>Nepal</td>
<td>8,713</td>
<td>13.8</td>
<td>99</td>
</tr>
<tr>
<td>Pakistan</td>
<td>1,534</td>
<td>70</td>
<td>97</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>2,636</td>
<td>19.6</td>
<td>96</td>
</tr>
<tr>
<td>East Asia and Pacific</td>
<td>6,020</td>
<td>7.2</td>
<td>81</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>13,511</td>
<td>6.1</td>
<td>57</td>
</tr>
<tr>
<td>Region</td>
<td>GNI per capita (in USD)</td>
<td>Water scarcity (in cubic meters)</td>
<td>SUI</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------</td>
<td>----------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>30.925</td>
<td>1.6</td>
<td>74</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>1,377</td>
<td>57.4</td>
<td>88</td>
</tr>
<tr>
<td>South Asia</td>
<td>2,684</td>
<td>19.5</td>
<td>94</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>7,951</td>
<td>1.3</td>
<td>85</td>
</tr>
<tr>
<td>World</td>
<td>8,513</td>
<td>6.4</td>
<td>71</td>
</tr>
<tr>
<td>Low Income</td>
<td>6,416</td>
<td>6.5</td>
<td>92</td>
</tr>
<tr>
<td>Middle Income</td>
<td>9,938</td>
<td>5.3</td>
<td>73</td>
</tr>
<tr>
<td>Lower Middle Income</td>
<td>9,401</td>
<td>5.4</td>
<td>73</td>
</tr>
<tr>
<td>Upper Middle Income</td>
<td>13,848</td>
<td>4.4</td>
<td>71</td>
</tr>
<tr>
<td>Low and Middle Income</td>
<td>8,258</td>
<td>5.7</td>
<td>81</td>
</tr>
<tr>
<td>High Income</td>
<td>N.A.</td>
<td>9.3</td>
<td>42</td>
</tr>
</tbody>
</table>

Low income economies are those in with a Gross National Income (GNI) per capita of $735 or less in 2002.

Middle income economies are those with a GNI per capita of more than $735 but less than $9,076, lower middle income and upper-middle-income economies are separated at a GNI per capita of $2,935.

High income economies are those with a GNI per capita of $9,076 or more.


Therefore, “water has been a cause of political tensions, and occasional exchange of fire, between Arab and Israelis, Indians and Bangladeshis; Americans and Mexicans, and all 10 riparian states of the Nile river.”  The demand for water for consumer society is very high, and because of unsustainable rates of water bring drawn from underground aquifers water tables are falling, especially in the American Great Plains, China, India,

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172Heather L. Beach and others, Transboundary freshwater dispute resolution: Theory, practice and annotated references (Tokyo, 2000) p. 39. This book takes a very concise overview of inter-state river water disputes and principles adopted in their resolution. Particularly, it attaches an appendix which synopses treaty summary. Authors maintain that there is no “hard law” on sharing of waters. Whatever exists is a “soft law” which is largely based on taking watershed basin as one entity. On possible “indicators of impending or likely water conflict” they postulate four indicators. They are, “water conflict” they postulate four indicators. They are, “water quantity issues, water quality issues, management for multiple use, and political division”. Further the indication for “type and intensity of conflict” are, “geopolitical setting, level of national development, the hydropolitical issue at state, institutional control of water resources and national water ethos”. pp. 40-3.
Mexico and the southern ex-USSR republics. The Middle East has been especially pointed out for water wars. Joyce Starr has been constantly forewarning of water wars. Starr points out

Middle Eastern leaders are acutely conscious of the potential for conflict stemming from chronic water shortages. "The only matter that could take Egypt to war again is water," declared President Anwar Sadat in the spring of 1979, only days after signing the historic peace treaty with Israel. This unveiled threat was not directed at Israel, but at Ethiopia, the upstream neighbour that controls 85 percent of the head waters of Egypt’s life line, the Nile river. In 1990 Jordan’s king Hussein issued similar warlike declarations.  

Steve Lonergan similarly stresses the importance of water in Arab-Israel relations. Lonergan argues that the water has been so important that it has been included as one of the five key topics for multilateral discussion (the other four are refugees, arms control, economic development and environment). Further, Lonergan argues that countries in the region "thinks in terms of water as strategic goal. It would actually be surprising if water was not considered a strategic goal. Water has one of the highest marginal values of any input to the Israeli economy; it is crucial to the establishment of new settlements; it is essential to an ideology centred on agricultural development; and it is ‘life itself.’"  

Lonergan refuses to conclude that Israel has been using water as a strategic tool. But he does emphasise "that the total control of water in the West Bank by the Israeli military authority (officially, the Water Department of the Civil Administration) is very subtle - but powerful - example of using this as a vital strategic tool". Lonergan also points out the resource inequity, where differential allotment is made available to the Palestinians. According to Lonergan,

Much of the conflict over water between the Palestinians and the Israelis relates to the blatant discrimination in water pricing, allocation and

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176 Ibid., p. 430.
delivery system. Water consumption by Israeli settlers in the Territories is roughly eight to 10 times that of the Palestinians. Water is sold to Israeli settlements for 0.5 New Israeli Sheckels (NIS) per cubic metre (setters in Gaza pay only 0.3 NIS), while it is sold to Palestinian villages for 1.8 NIS (and to individual Patestinians for 2.1 NIS). Water is available to Palestinian villagers only one or two days a week (and is otherwise stored in water tanks on the roofs of homes) while it is made available daily to Israeli settlements.\(^{177}\)

With rising consumption levels, shortage of renewable resources like freshwater can contribute to exacerbating existing faultlines. In fact, there are a number of scholars who insist that water is the causal factor in a number of conflicts. As Vandana Shiva, maintains, “where it is in Punjab or in Palestine, political violence often arises from conflicts over scarce but vital water resources. In some conflicts the role of water is explicit, as in the case with Syria and Turkey, or with Egypt and Ethiopia.”\(^{178}\) Shiva argues that in the last thirty five years “the global per capita water supply has declined by thirty three per cent.” Water is portrayed as the underlying causal factors of conflicts. It is not only that water scarcity causes conflicts, but also that there conflicts are described in ethnic or religious categories (or in epistemic categories). As Vandana Shiva emphasises, “it is always possible to color water conflicts in such regions as conflict amongst region, religions, and ethnicities. In Punjab, an important component of conflict that led to more than 15,000 deaths during the 1980s was an outgoing discord over the sharing of river waters... A water war presented as a religious war.”\(^{179}\) Hence, a security threat could arise from differential consumption in the global consumerist society.

**Environmental Sustainability**

The most important and perhaps more obvious limitation of the global consumerist society is of sustainability. Sustainability is often associated with the phrase sustainable development taking to popular imagination in the 1980s. The Brudtland’s Commission

\(^{177}\) Ibid., p. 429.

\(^{178}\) Vandana Shiva, *Water Wars: Privatization, Pollution and Profit* (New Delhi, 2002) p.x

\(^{179}\) Ibid., p. xi. Shiva cites Vice-President of the World Bank’s famous statement made in 1995 arguing that, “if the wars of this century were fought over oil, the war of the next century will be fought over water”. Shiva opposes privatisation of the water which is being done to, especially suit the interests of Multi-National Corporations. She argues that water has traditionally been regarded as a natural right “and “as natural rights, water rights are usufructuary: water can be used but not owned.” p.2 However, Anderson and Snyder favoe water privatisation. Terry Anderson and Pamela Snyder, *Water Markets: Priming the Invisible Pump* (Washington, D.C., 1997).
emphasised "sustainable development" in 1987 which postulated that sustainable development "meets the needs of the present without compromising the ability of future generations to meet their needs". It was World Commission on Environment and Development (1987) that firmly etched the phrase sustainable development in the discourse of international relations. In fact, the debate over sustainability is a continuation in the pedigree of thought as espoused by Thomas Malthus, the first thinker to assert the limited capacity of nature to sustain a burgeoning human population.

Thomas Mathus articulated his ideas concerning the relationship between rate of population growth and provision of subsistence in An Essay on the Principle of Population (1798). He argued that "population, when unchecked, increased in a geometrical ratio, and subsistence for man in an arithmetical ratio." Mathus resorted to quantitative analysis to show the population growth in the United States and Europe, so as to justify his hypothesis. Hence, there is a need to check population growth so as to facilitate adequate provisions for all. Malthus believed this to be a universal law, holding true without any exception. The Malthusian position was attacked primarily on his view that the food production will grow only arithmetically. As Engels asserted that,

If we assume that the increase of output associated with this increase of labour is not always proportionate to the latter, there still remains a third element-which the economists, however, never consider as important, namely science, the progress of which is just as limitless and at least as rapid as that of population.  

In fact, many of the alarmist projections made concerning exhaustion of a number of resources didn’t proved to be true. According to Sandbach, Malthusian forecasts

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180 Thomas Malthus, "The Theory of Population" in Michael Allaby, ed., Thinking Green: An Anthology of Essential Ecological Writing (London, 1989), p. 78. Malthus's argument sought to contest the claims of William Goodwin that it was possible to establish on egalitarian society devoid of deprivation and injustice. Malthus argued that human population had an inherent natural desire to procreate. While this same reproductive instinct is prevalent in plants and animals, but their fecundity is more than limited by their being prey to others. But the same case is not with humans, hence a desire to limit their procreation. Recourse to this argument was taken by critics of Goodwin's exhortation of Poor Law. Later, Malthus subscribed to this argument and advocated no relief to poor classes. In fact, Malthusian theory influenced Charles Darwin to postulate theory of natural selection.


182 Sandbach cites a number of such prognostications which predicted exhaustion of resources. Jevous in The Coal Question (1865) that coal resources would be depleted by the year 2034. Jevous didn't take into account the alternative sources of energy e.g. oil, wind and geothermal. Also, it had been predicted that extraction process over the years will become increasingly difficult and later it would become unviable. However, reverse has taken place where extraction or exploitation cost had decreased substantially.
have failed to take into account that expansion of resources has taken place. The lacunae with the Malthusian thinkers have been that they do not recognise that resources are made, not found. As scientific and technological development advances, new resources are found or made. But Malthusian predictions are not as out of place as it might sometimes seem, since with both increasing consumption and population, there is a limit to increase in resources. According to Sandbach, "faith in technology as a saviour may well be unwise, for past experience (or at least this kind of interpretation of the past) is not necessarily a good guide to the future."183 This is evident in the mining sector, where increasing low grade ores are being smelted. Further, the energy efficiency is also on decline in agriculture field. The energy input required to increase production is the increasing. Hence, according to Sandbach, "the Malthusian argument has greatest relevance in relation to those resources that have least potential for expansion, especially those resources that can be loosely defined as rural amenity."184 In a similar sense Garrett Hardin's The Tragedy of the Commons stresses the unsustainable exploitation of a common source.185 But he emphasises the destructibility of the common pool resource, implying "freedom in a commons brings ruin to all". He repudiates Adam Smith's "invisible hand" thesis, where an individual following his own interest leads to promotion of public interest.

Later, Hardin developed a "lifeboat ethics", which asserts the limits of planet earth. He is particularly concerned over burgeoning population especially of the poor. Since the earth is commons the poor will continue to have a high birth rate. Hardin forbids provision for the poor, a la Malthus, arguing that "We cannot safely divide the wealth equitably among all present peoples, so long as people reproduce at different rates, because to do so would guarantee that our grand children - everyone's grandchildren would only have a ruined world to inhabit."186 Hence, if provisions are made for poor, they will continue to multiply, and endanger the food situation further. In

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184 Ibid., p. 208.
185 Ibid., p.209.
his 'lifeboat' there is no place for the poor, since the earth’s capacity are limited. They are condemned to be sacrificed for the sake of humanity. Hardin says there is no scope for conscience, since a rich man in the boat can help the poor only by giving his place. But the situation will be of where “conscience eliminates itself, leaving the ethics of a lifeboat unchanged.”\textsuperscript{187} Hardin’s position is untenable, since he believes that rich nations do not depend on poor nations. In fact, they are dependent for many resources on the poor countries. The problem with Hardin’s Malthusian idea, that the poor do not benefit from help, is shown to be wrong by demographers: with the rise in living standard, population rate falls down. Thirdly, the main problem with the Hardin’s position is that it does not believe in the communal effort in solving the crisis. Hence, according to T.O’Riordan, “the ethics of a lifeboat denies the existence of a community and guarantees the persistence of discrimination.”\textsuperscript{188} But Shaw, on the other hand, gives lesser importance to population growth as a cause of environmental pollution. He concurs with the view of Barry Commoner that polluting technologies and affluence generated waste are the key causes of pollution. Shaw sought to combine these two causes viz., population growth and affluence, as proximate and ultimate cause in the generation of pollution. He argues, “broadly speaking, there are two kinds - ultimate and proximate. Ultimate cause include polluting technologies, affluence related wastes, environmental consequences of warfare, land and urban mismanagement policies, and so on. In contrast, proximate cause such as rapid population growth are shown to be more situation-specific, contemporary, and of a confounding nature.”\textsuperscript{189}

The Malthusian version of limits and environmental degradation continues to be predominant where the source of pollution is traced to the population growth in the Third World. The high consumption levels as engendering environmental degradation is seldom emphasised. Similar to Malthus, “limits to growth” have been emphasised by the Club of

\textsuperscript{187} Ibid., p.4.
\textsuperscript{188} T. O’Riordan, Environmentanism (London, 1981), p.31.
\textsuperscript{189} R. Paul Shaw, “Rapid Population Growth and Environmental Degradation: Ultimate Versus Proximate Factors”, Environmental Conservation, 16, 3, Autumn 1989, p. 207. Shaw argued that earlier he would subscribe to the views of Dr. Barry Commoner, who asserted that, “environmental impact is not correlated with the rate of population growth. The theory that environmental degradation is largely due to population growth is not supported by the data.” (cited in ibid., p. 199). Instead pollution is due to high level of affluence, population growth and polluting technologies. Instead, now author subscribes to the Sadik, position that “increasing human demands are damaging the natural resource base. High fertility and rapid population growth are contributing to the process.” Cited in ibid., p.199.
Rome report *The Limits to Growth*.\(^{190}\) It envisages a "world model" projection of the future world. It incorporates five major variables viz., population, industrial production, food production, the use of non-renewable resources, and pollution. It emphasises limitedness of the environmental systems which can sustain the present rate of growth. Industrial growth depends on the energy and resources, which is difficult to be available in the future. Also, increase in food supply depends upon the increase in agricultural land and consequent productivity. But more accession of land and increasing energy intensity will be difficult to meet. Coupled with this is increase in pollution. From the Club of Rome’s methodology it is evident that changing or slowing of one of the variables may slow down the passage to the limit, but the limit itself inevitable.

Meadows and Malthus’s prognostication have a number of similarities, according to Benton. Both accede to the belief in outer limits to progress. Their methodology is same i.e. it is inductivist. Further, they give marginal importance to the organisation of societies. Also, “both forms of ‘natural limits’ analysis appeared in the wake of widespread popular radicalizations, which traumatized conservative interests.”\(^{191}\) This general belief was evident in the preface to the report.

The intent of the project is to examine the complex of problems troubling men of all nations: poverty in the midst of plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban spread; insecurity of employment; alienation of youth; rejection of traditional values; and inflation and other monetary and economic disruptions.\(^{192}\)

According to Benton, despite these common features which merit the epithet "neo-Malthusianism" for the Club of Rome report, there still are divergent points among these reports. Firstly, Malthus’s argument is based primarily on the growth of population and consequently, deprivation and disease, while on the other hand, Meadows and others base their argument on a combination of factors. Secondly, Meadows and others accept the speculativeness of their report, while Malthus has an underlying attempt to root his theory in a universal law. Thirdly, the Club of Rome attempts to explicate on the effect of environment on divergent respects, while, Malthus, focuses on “means of subsistence”.

\(^{192}\) Shaw,n.189.
Fourthly, Malthus’s rural element is limited; initially he denied any help to poor people, but later acknowledged moral restraints for regulation in reproductive rate. Meadows and others to achieve a “global equilibrium” emphasised the following measures:

1. The capital plant and the population are constant in size—the birth rate equals the death rate and the capital investment rate equals the depreciation rate.

2. All input and output rates—births, deaths, investment, and depreciation are kept to a minimum.

3. The levels of capital and population and the ratio of the two are set in accordance with the values of the society. They may be deliberately revised and slowly adjusted as the advance of technology creates new options.193

Benton argues that the Malthus and neo-Malthusian position can be transcended by emphasising “social relational dynamics” which are key to an analysis of society. Benton argues that they exclusively focus on outer physical limits. Hence, a recognition of natural limits scope does not necessitate politically conservative conclusions. Expanding the cope and flexibility of human adaptability in the face of natural limits which are invulnerable to intentional manipulation is no less rich in emancipatory possibilities than the Promethean ‘transformationist’ project, which must now be approaching its close as a phase in human history. But where an appropriately revised Marxian perspective can offer insights unavailable to contemporary neo-Malthusianism is in the clear recognition that natural limits cannot be specified independently of an analysis of the social-relational dynamics of each form of appropriation of nature.194

This debate over limits to growth as emphasised by Malthus and his later adherents in various forms (designated as neo-Malthusians) has been a recurrent feature in the debate over environment and development. The thinkers who do not accept any insurmountable limit to growth are referred as “cornucopians”. As Homer-Dixon points out, “experts in environmental studies now commonly use the labels “cornucopian” for optimists like [Julian] Simon and “neo-Malthusian” for pessimists like Paul and Anne Ehrlich.”195 The Ehrlichs argued that an increase in population is leading to environmental degradation. Their book The Population Bomb in 1968 asserted that the

193 Ibid.
world was overpopulated. It had surpassed the carrying capacity of the environment. However, Barry Commoner contested this arguing that increase in technological sophistication is the cause of environmental degradation. According to Commoner, said synthetic or inorganic things like plastic are cause of environmental degradation.

Homer-Dixon is neo-Malthusian, arguing that although till now, the cornucopians have been proven right in their assessment that the Malthusian position is "crying wolf", they have overlooked seven key factors. Firstly, according to Homer-Dixon, earlier resource scarcities were of different kinds. The crisis in earlier periods appeared of single resources, but now we witness "multiple scarcities". These, "exhibit powerful interactive feedback, and threshold effects. An agricultural region, may, for example, be simultaneously affected by degraded water and soil, greenhouse-induced precipitation changes, and increased ultraviolet radiation." Hence, the future will now be more uncertain and unpredictable. Also, "as numerous resources become scarce simultaneously, it will be harder to identify substitution possibilities that produce the same end-use services at costs that prevailed when scarcity was less severe." Secondly, according to Homer-Dixon, the earlier resource scarcity developed gradually, thereby, "allowing time for social, economic, and technological adjustment. But human populations are much larger and activities of individuals are, on a global average, much more resource intensive than before. This means that debilitating scarcities often develop much more quickly." This increase in degradation is progressing on such a rapid pace that pollution can destroy an ecosystem in a very limited time, even before its occurrence could be known and rectified. Thirdly, Dixon does recognise consumption as the source of scarcity. He argues, "today's consumption has far greater momentum than in the past, because of the size of the consuming population, the sheer quantity of material consumed by this population, and the density of its interwoven fabric of consumption activities. The

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198 Homer-Dixon, n.195, p. 525.
199 Ibid.
countless individual and corporate economic actors making up human society are heavily committed to certain patterns of resource use; and the ability of our markets to adopt may be sharply constrained by these entrenched interests."^{200}

Fourthly, Homer-Dixon resorts to the argument of "tragedy of commons" asserting that the cornucopians mistakenly believe that free market mechanisms can address the problems of scarcity. Free market may not be helpful in conditions where resources are held in common. Fifthly, even if we accept free market mechanisms, this may be helpful only in wealthy countries. Sixthly, our understanding of natural processes is still inadequate. Hence, human intelligence may not be able to address a many environmental problems. Finally, Homer-Dixon maintains that

Future environmental problems, rather than inspiring the wave of ingenuity predicted by cornucopians, may instead reduce the supply of ingenuity available in a society. The success of market mechanisms depends on an intricate and stable system of institutions, social relations, and shared understandings. Cornucopians often overlook the role of social ingenuity in producing the complex legal and economic climate in which technical ingenuity can flourish. Policymakers must be clever "social engineers" to design and implement effective market mechanisms. Unfortunately, however, the syndrome of multiple, interacting, unpredictable, and rapidly changing environmental problems will increase the complexity pressure of the policy making setting. It will also generate increased "social friction" as elites and interest groups struggle to protect their prerogatives. The ability of policymakers to be good social engineers is likely to go down, not up, as these stresses increase."^{201}(emphasis in the original).

Julian Simon is one of the foremost cornucopians. He dismisses talk of natural resources as finite. Simon contests the very validity of using the word finite for measuring natural resources. Simon argues that "the long-run trends make it very clear that costs of materials, and their scarcity, continuously decline with the growth of income and technology."^{202} Further, Simon argues that consumers and economists must focus on the services rendered, not the resources themselves. The same services can be made

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^{200} Ibid., pp 525-6.
^{201} Ibid., pp.526-7.
available by many other resources. Most importantly, Simon does not believe in the enterprise of judging resources by finiteness. He argues,

incredible as it may seem at first, the term “finite” is not only inappropriate but is downright misleading when applied to natural resources, from both the practical and philosophical points of view... The quantity of a natural resource that might be available to us - and even more important the quantity of the service that can eventually be rendered to us by that natural resource - can never be known even in principle, just as the number of points in a one-inch line can never be counted even in principle.203

Simon sees resource as akin to a concept, whose finiteness and infiniteness can only be judged by the definition itself. This idea of unlimited resource was not acceptable to the economist Herman Daly, who stressed the importance of a “steady state economy” in which “enough is best” rather than the consumerist credo that “more is better”, arguing that a high-consumption economy like that of the United States is not possible for all the inhabitants on the earth.204 Hence, the need is to recognise ecological limits. This recognition of ecological limits incorporates radical change in our values to no longer stress a growth oriented economy. Daly defines the steady state economy as “an economy with constant stock of people and artifacts, maintained at some desired, sufficient levels by low rates of maintenance “through put.” Similar ideas were expressed by the World Commission on Environment and Development report Our Common Future (1987). It emphasised a close inter-relationship between economic development and environment issues. Sustainable development implies limits to growth, as imposed by technological advancement, environmental resources and the biosphere’s ability to absorb human civilisation. WCED in its report points out that sustainable development also implied meeting “the basic needs of all”. It also recognises the threat of lifestyles and high consumption rates to ecological sustainability. Pointing to the political division of the Earth it noted that, “the Earth is one but the world is not”.

However, Robert M. Solow points out that sustainable development or sustainable growth or sustainability itself a genuine deeply felt concept,205 though by its very nature

203 Ibid., p.521.
204 Herman Daly, Steady-State Economics (San Francisco, 1977).
it is essentially vague and unfeasible. Sustainability is defined as an obligation to leave to the future what we inherited. This definition is problematic according to Solow, since we don’t know about the preferences, tasks and technological advancement of the future. In fact, when talking about sustainability, one should take into account not only of natural resources but also of “productive capacity” (plant and equipment) and technological knowledge. Solow’s argument is thus similar to Simon’s. Solow argues that “resources are fungible in a certain sense.” He says that in making policy decisions we can take advantage of the “principle of substitutability”, implying that we are obliged to leave behind ‘a generalized capacity to create a well being’, not this or that particular thing. Further, sustainability is about distributional equity between generations, but it overlooks the question of equity within generations. In his arguments against the vague concept of sustainability, Solow has only one concrete point to make, viz., that the Third World population growth is the biggest challenge to sustainability; therefore it needs to be checked. Thus Solow sees the prime problem as population growth, not high consumption. With economic globalisation has come increasing levels of consumption. As is evident, the world is witnessing greater urbanisation. The World Development Report 2004 maintains that traditionally rural countries like India, China and Indonesia are undergoing high growth in urbanisation. As it notes,

Greater urbanization usually means greater pollution, which can overwhelm the natural capacities of air and water to absorb pollutants. The costs of controlling pollution can be enormous. And pollution exposes to severe health hazards. Several major urban air pollutants - lead, sulfur dioxide, suspended particulate matter - are known to harm human health. A big source of major urban air pollution is motor vehicles, whose numbers are strongly linked to rising income. The number of passenger cars in developing countries has increased from 16 cars per 1,000 people in 1990 to 28 in 2001. At the same time, the number of passenger cars in high-income countries has increased from 400 per 1,000 people to 440. \footnote{Matthew Paterson locates this growth in acquisition of cars due to the individual’s coalescing of his/her identity with car culture. Paterson argues that car culture contributes to global environmental change. He notes that for mainstream approaches to global environmental politics, with their exclusive focus on inter-state processes such phenomena are simply }
absent, irrelevant. But if cars are such an important component not only of the production of global environmental challenge, but also of the social, economic and political processes which make up state power and this make inter-state politics possible, then such an absence simply serves to reinforce the way that the states system, capitalism, patriarchy, and so on, are naturalized and made unchallengeable.\footnote{Mathew Paterson, \textit{Understanding Global Environmental Politics: Domination, Accumulation, Resistance} (Hampshire, 2000), p.114.}

The globalisation of consumer society is castigated as McDonaldisation and Coca-Colonisation, a sort of cultural imperialism. Also, an ecological criticism of fast food is undertaken. Pointing to the same, Patterson emphasises that “fast-food restaurants are major consumers of the raw materials, making up most of the products they sell. McDonald’s alone is the biggest consumer of meat and potatoes in many of the countries it operates in, in the US consuming 600 million pounds of beef annually, and 7.5 percent of US’s total potato food crop... Such organisation of consumption requires the intensification of agriculture, referred to as factory farming.”\footnote{Ibid., p.137.}

McDonaldisation is also criticised for its contribution to waste involving paper. Paper consumption is one of the prime reasons for tree-felling in the developing world. The annual rate of deforestation in the period 1990-2000 is 9.5 million hectares a year (\textit{World Development Report}, 2004). Combined with deforestation is loss of biodiversity. Also, food security will come under stress. According to Lester R. Brown, we are facing food insecurity, arguing that “since the bumper crop of 1990, there has been little growth in the world grain harvest”.\footnote{Lester R. Brown, \textit{Tough Choices: Facing the Challenge of Food Scarcity} (London, 1996), p. 35.} In addition, demand for grain is soaring, both because of rising population and increasing affluence. Increasing affluence in countries of Asia has led to an increase in demand for meat. Brown asserts that, “world wide, the grain used to feed livestock, poultry, fish in 1995 totalled 640 million tonnes, accounting for 37 percent of global grain consumption.”\footnote{Ibid., p.55.} With rise in affluence, a change of food habits will lead to a soaring demand for grain. For example, China has overtaken Germany in total beer consumption. Homer-Dixon, asserting sustainability while exploring “physical dimensions of global change” argued
We should be cautious in our assumptions about the resilience of natural environment. We should not invest much faith in "business as usual," even if such a path permits considerable cooperation and social flexibility. Even the optimistic scenario above places immense demands on the global eco system, and this raises the probability of harsh surprises. Moreover, although serious uncertainties surround many aspects of global environmental challenge, in light of this genuine risk of negative surprises, uncertainty should not become an excuse to avoid investigating alternatives to "business as usual."\(^{211}\)

Global warming is being tackled through the Kyoto Protocol, but still remains the most pressing global problem. Normally, solar radiation passes through the atmosphere and warms the earth, even though some radiation is reflected back to the atmosphere from the earth. Greenhouse gases like carbon dioxide manage to prevent this return radiation from the earth, leading to the warming of the earth. Temperature studies of the last 150 years are available and they show an increase in temperature. In the past 100 years, global temperature has increased by 0.3°C - 0.6°C. It is estimated that by the year 2100, global mean temperature will increase by 2-5°C.\(^{212}\) Some scientists dispute that human activity is the cause of global warming, arguing that is part of a natural cycle of warming experienced by earth. However, a majority of scientists, as evident in Intergovernmental Panel on Climate Change (IPCC) argued that human activity is the cause of global warming, since it causes an increase in greenhouse gas emissions. IPCC reconfirmed its findings in 2001: indeed, the earth's temperature was increasing, and a large part of blame could be attributed to human greenhouse gas emissions. The will lead to an increase in mean sea levels by 20 cm by the year 2030, or 65 cm by the year 2100 due to the melting of the polar ice caps, leading to the drowning of many island states. In response of this threat they have formed the Association of Small Island States (AOSIS). This will lead to migration to higher levels, having tremendous social, political, demographic and economic repercussions. Further, global warming will change climate patterns, leading to decline and increase in agriculture in different areas, and also loss of


\(^{212}\) Peter Bartelmus, Environment, Growth and Development: The Concept and Strategies of Sustainability (London, New York, 1994).
flora and fauna. However, *World Development Report 2004* has pointed out that there has been a reduction or slowdown in emissions of some of the greenhouse and ozone depleting substances since Rio.

**CONCLUSION**

Globalisation of consumerism will have to seriously engage with various issues and dimensions of the environment, especially environmental sustainability. However, the debate between cornucopians and neo-Malthusians, pre-dominantly emphasises growth of population as the cause of environmental degradation. High consumption levels being environmentally unsustainable is asserted only on the sidelines. Despite environmental limits on global consumerist society, the limitation is dialectical. The various environmental problems, it has been shown, can’t be addressed at the individual state level. As Andrew Hurrell points out, “the increased seriousness of many environmental problems, provides one of the most intensely plausible reasons for believing that the nation-state and the systems of states may be either in crisis or heading towards a crisis.”213 The limitations are dialectical because the very awareness of environmental crisis at the local or global level is compelling people or nation states to organise themselves to counter such threats. Individuals or groups of people are coming together at the global level as a part of global civil society to counter environmental change. For example, various United Nations agencies and non-governmental organisations are pressing for sustainable consumption. The 1992 Earth Summit at Rio, agreed to form a Commission on Sustainable Development under Agenda 21. Chapter 4 of Agenda 21, “changing consumption or production patterns”, stated that “the major cause of the continued degradation of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries”. Different NGOs like Consumers International, Consumer Unity and Trust Society and North Atlantic Sustainable Consumption Alliance are also active in toning down consumption and adoption of green consumerism. The United Nations Department of Economic and Social Affairs maintains the Sustainable Consumption Network. Though eco-anarchism of Bookchin may look attractive on paper, but its not a feasible option. Thus, circumference

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of consumerism is global, though debates over its kind and character can be waged. But
global consumerist society is a feature of the present world.