Chapter - II
How Feasible is a Global Environmental Agenda?
The Theoretical Debate

How do the dominant mainstream theories of International Relations (IR) equip us to address the numerous issues emanating from the unstoppable degradation of the environment? Given the fact that “environment” is a generic concept, camouflaging the multiple layers of the issues emanating from its degradation, does one make sense of the varied nature of the problems ranging from acid rain to climate change? In other words, how does one make sense of issues like that of soil erosion which is essentially local in nature, the problem of acid rain which is regional in scope, and the issue of climate change which is recognized as a threat multiplier with global ramifications? We try to make sense of such issues which of late have assumed gargantuan proportions with potential to cause near global havoc to the mankind at large. Scott R. Forsyth forward a strong case for IR theories in terms of making sense of the on-going environmental issues:

Theories provide intellectual order to the subject matter of international relations. They enable us to conceptualize both past and contemporary events. They also provide us with ranges of ways of interpreting complex issues. Theories help us to orientate and discipline our minds in response to the bewildering phenomena around us. They help us to think critically logically and coherently...1

1 Scott Runcchin “Introduction” International Relations: The World Community in T...
He further says:

To the scholar of the ‘international’, theories are unavoidable. After all, the interpretation of ‘reality’ is always contingent on theoretical assumptions of one kind or another. To reiterate the point, the events and issues which comprise international relations can only be interpreted and understood by reference to conceptual framework. The theory of international relations provides with a choice of conceptual framework.7

Following from Burchill’s formulation, we also try to understand and analyze environmental issues from the perspective of realism/neo-realism; Marxism/dependency theory/critical theory; ecofeminism and neoliberal institutionalism. Apart from neoliberal institutionalism which forms part of the section two of this chapter, all other theories are discussed in section one.

Section I

Realism/Neo-realism

The realist approach was indisputably the dominant paradigm of world politics during the inter war and cold war periods. The proponents of this tradition uncritically privileged the high politics of that period. However, during the last two to three decades particularly, this theory has encountered certain challenges with the rise of environmental issues like climate change, ozone depletion etc. The practitioners of this paradigm3, however, continue to believe that these issues are merely transient in nature or new puzzles which will get resolved in due course of time. Realist scholars thus consider the emergence of such issues on the agenda of the nation-states as of recent origin. As Porter and Brown point out “global environmental problem became issue of ‘high politics’ … in the 1980s, largely through the end of superpower

7 Ibid., p. 14.
competition and the collapse of the cold war”. \[^4\] Two points are implied here – one, the movement of environmental issue from the domain of low politics to high politics which shows that such issues are increasingly treated as given as yet another issue on the agenda of the states. And two, the criticality of issues in international relations are acknowledged and recognized only when they are of any consequence to state actors. \[^5\]

In order to study environmental issues from the perspective of neorealism, let us first understand the basic underlying philosophical assumptions of neorealism per se:

First, the world is composed primarily of sovereign states, which can be treated as unitary actors. Second, these states exist in a condition of anarchy; that is, there is no government holding power over them. Third, as a consequence of this anarchy, the states must always be on guard against their neighbors since they are always in potential danger of invasion. And forth, as a consequence of this, states behave in a way as to maximize their power relative to others. \[^6\]

In neorealist terminology this type of behavior has come to be known as ‘status maximizing’ behavior, relative-gain-maximizing’ behavior, etc. These theoretical assumptions clearly elevate the states to the highest level. Other institutions or non-state actors are either relegated to the margin or largely treated as mere supportive agents of the states in their relative-power-maximizing activities.

In response to the rise of global environmental politics, the realist international relations theory has thus continued to privilege the state. Accounts of the global environmental politics focus on the activities of the states and pose questions from the perspectives of the states. \[^7\] The problem of environmentalism in such a worldview arises from the difficulty of regulating independent political actors in the context of an anarchical international system. States are key players in this system as they are

engaged in zero-sum, relative-gain power games and are also required to defend their interests against each other. In fact, the phenomenon is not new to nation states. "The sin of states might have not occurred without a combination of natural resources limitations and acceptance of war as an appropriate means for achieving societal aim." Therefore, warfare is "one of the means by which access to resources is achieved." In short, the nation-states might well be said to have originated from increasingly scarce resources and certainly do use their military power to secure them.

Thomas F. Homer-Dixon argues that uncontrolled ever-growing environmental degradation would first lead to conflict between states that will eventually get transformed into war amongst them. In other words, increased stress on environment resulting in depletion and scarcity of resources will weaken the nation-states system from within; as states will become more and more unstable and vulnerable, which in turn would increase the likelihood of occurrence of international conflicts a routine phenomenon.

The environmental change has thus far led to the emergence of two grave problems for the people at large. One is related to the scarcity of natural resources and the other is concerned with the impending threat to the existence of humanity on the planet earth owing to ever increasing depletion of the ozone layer and the consequent global warming. The second problem, undoubtedly, is far more severe in nature than the first. In the wake of these new threats, the neorealist theorists provide a detailed account of the first threat i.e. the depletion of natural resources by redefining the very concept of national security. The role of military is being increasingly diverted by different states from its traditional obsession with security-centric issues to the 'protection' of natural resources not only in respect to their respective national jurisdiction but also over what has come to be called global commons. This is clearly being done with a view to establish hegemonic control over such resources, which in turn would allow these states to exercise influence over other states. As Arthur H.

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Westing shows, "the question of gaining control over natural resources has been an important consideration in over a dozen wars fought in the 20th century alone".11

Odelia Funke extends the same argument forward by observing that in modern history the desire to expand the natural resource base has led some nations to wage war of annexation or colonial conquest.12 A similar viewpoint is shared by Norman Myers who highlights the importance of the need to protect environment by arguing that if a nation’s environmental resources continue to deplete, its economy would steadily decline, its social fabric would deteriorate and its political structure would get destabilized, leading to the outcome of conflict. Such conflicts would get manifested, Myers further argues, either in the form of disorder and insurrection within the nation-state or tension and hostilities with other nations.13

The emergence of environmental issues as significant areas of concerns in the 1990s for all the states of the international community can be illustrated from the 1990-91 gulf war. In many ways the Iraq-Kuwait war has come to be seen in terms of a “resource war”. As is well known, the Iraqi invasion was triggered by Kuwait’s attempt at flooding the oil market with a view to lowering down world oil prices which would compound Iraq’s debt problems. It was against this backdrop that Iraq declared a war against Kuwait. The additional grievances were that Kuwait was allegedly using oil in an unauthorized manner from Iraqi territory with help of angle drilled well.14

In the wake of growing realization of environmental concerns both at the domestic as well as international level, almost all the states of the world can be seen to be engaged in the task of redefining the concept of national security with a view to recognizing and appreciating environment related issues as major concerns of national security. This is further illustrated from the 1991 US national security strategy report, which exhibits that environment is increasingly being looked upon as an issue of

growing national interest in the US and the US military establishment can play crucial role in addressing such issues.\textsuperscript{15}  

From the perspective of the neorealist paradigm then, as is evident from the above, the issue of the security of global environment stands clearly pitted against the state system as another, perhaps contradictory, value or set of values. While such an understanding does not enjoy any formidable position within the state-centric theory given its obsession with ‘high politics’ i.e. national interest, sovereignty, ‘rational’ foreign policy etc., it can perhaps best be addressed within the perspective of a value-based theory. Moreover, the state-environment dichotomous value structure underpins a contradiction between traditional definition of security and environmental security. In other words, the realist values are seldom in harmony with human environment while vast resources have been exhausted in their name.

However, despite these fundamentally irreconcilable contradictions, attempts have been made in more recent times to reconcile these contradictions by stretching and broadening the very notion of security and creating new space in the process for accommodating environmental concerns within the realist framework. The Brundtland Report is a case in point which has largely been concerned with the “redefinition of priorities, nationally and globally”, and with “broader forms of security assessment”. As this report reveals:

\begin{quote}
The whole notion of security as traditionally understood in terms of political and military threats and national sovereignty – must be expanded to include the growing impact of environmental stress – locally, nationally, regionally and globally. There are no military solutions to ‘environmental security’.\textsuperscript{16}
\end{quote}

What probably explains the need for expanding the notion of security within the realist paradigm, thus, is the fact that in the traditional discourse of international security, the threat to security has traditionally been seen as integrated which invariably come from an assignable agent to which a timely response could easily be made. It was much easier in such situation to cope up with such threats given the

\textsuperscript{15} For more details see Kent Hughes Butts, “Why the Military is good for the Environment”, in Kakonen, no. 10, p. 83.

highly identifiable nature of such threats to which effective response could be made either by the use of force or by the threat of use of force. However, as Dyer observes, “Environmental ‘threat’ may be assignable in some case, but more to the point are those case where assignability is problematic in the way of public goods, and when ‘securing’ from such generalized state of affairs or ‘natural’ conditions is not possible or appropriate within the traditional meaning of the term security.”17

Yet another problem with the realist is that they are not unanimous on the question of what constitutes environmental security and who would benefit from such a notion of security and also what is it that security is being sought against. While some say that it is the state which will be secured, there are others who believe that it is environment which needs to be secured and there are still others who argue that it is the people which stand to gain from such a process of obtaining environmental security. All this only adds to the existing conceptual confusion and obfuscates the realist understanding of the environmental security.

Dyer argues that the question of defining security is largely dependent upon the specific conception of security that is employed. He maintains that if the concept of security is expanded and broadened to such an extent that all others security-related consideration can actually be taken into account, it might help in steering clear some of the conceptual confusion regarding the understanding of the notion of security. This is not, argues Dyer, because traditional security concerns have vanished, but because they can perhaps be better incorporated into a broader notion of environmental security than can environmental security be squeezed into a rigid and outmoded traditional, largely militaristic conception of security.18

The foregoing discussion, thus, reveals that the two threats arising out of environmental degradation that I have pointed out above are closely interrelated and cannot be studied in isolation. The neorealist approach to protect the states form first threat (scarce natural resources) by securing greater control over natural resources, wherever they are, through the use of military power sounds very well and close to the reality but it completely fails when it moves on to address the second threat (threat to

17 Hugh C. Dyer, “Environmental Security as a Universal Value: Implication for International Theory”, in Vogler and Imber, no. 6, p. 27.
18 Ibid., p. 25.
human existence due to global warming, ozone depletion etc.) where assignability is probable. In other words, the use of military power cannot be effective in case of such environmental threats since these threats do not come from a recognized or designated agent against whom military power can be used.

**Marxism**

Much against the popular perception, it would be naïve to assume that Marxism has nothing to say on environmental problems. As Aiden Foster-Carter puts it, “Those who insist that [environmental destruction] has nothing to do with Marxism merely ensure that what they choose to call Marxism will have nothing to do with what happens in the world”.19 Given his major preoccupation with the issue of uneven economic distributional structures in capitalist society and the revolutionary project of social transformation, Marx’s neglect of the environmental concerns in a more direct fashion should come as no surprise. However, he did make some significant observations in the context of such issues, albeit indirectly. As noted by James O’Connor in his article, although “Marx wrote little pertaining to the ways that capital limits itself by impairing its own social and environmental conditions hence increasing the cost and expenses of capital, thereby threatening capital’s ability to produce profits, i.e. threatening economic crisis.”20 He made three important observations in this context. Connor elaborates these as follows:

The first was that deficiencies of production conditions or “natural conditions” (“bad harvest”) may take the form of economic crisis. Second, he was convinced of the more general proposition that some barriers to production are truly external to the mode of production (“the productiveness of labor is fettered by physical conditions”) but then in capitalism these barriers assume the form of economic crisis. Put another way, some barriers are general and not “specific to capitalism”. What is specific is the way these barriers assume the form of crisis. Third, Marx believed that capitalist agriculture and silviculture are harmful to nature, as well as that capitalist exploitation is harmful to human labor power... Marx believes that capitalist farming (for example) ruined soil quality. He was also clear that bad harvests take the form of economic crisis.21

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20 Ibid., p. 439.
21 Ibid., pp. 439-40.
It is thus quite obvious from the above that Marx was not totally ignorant of such (ecological) issues, though his focus was mainly directed towards an understanding of the economic distributional conflict in society. However, the latest strands emanating from Marxism have adapted to the contemporary situations and shifted their focus from the economic distributional conflicts to the other equally grave conflicts including ecological one. The Dependency School is one such strand of Marxism, which, asserts that the highly uneven nature of the world economy gets further accentuated by the unevenness of the existing capitalist power structure of world politics. It is only natural, therefore, that the responsibility for environmental problems or conflicts will also be highly unequal. Following from the above, the economically privileged will be naturally better equipped to shift their responsibilities for environmental conservations on to the shoulders of those who happen to be economically underprivileged.

Dependency school takes up the environmental issues from the point of view of core – periphery structure of world politics. Jeff Haynes argues, “When western industrial democracies seek to control environmental pollution – as in location of chemical producing factory plant or getting rid of toxic waste, a by-product of industrial production – it is likely that the problem will be exported, usually to third world”.22

It is quite evident, thus, that even though environmental pollution and resource depletion are worldwide phenomena, their origins are far less uniformly distributed, and more often than not those who cause such problems and benefit from them are rich and powerful enough to try to limit the impact on themselves by importing it to others. Therefore, it would be wrong to say that the responses to environmental problems in such circumstances will be ‘globally harmonious’. However, there may be some common threats, but such problems are generally generated by the core by shifting the responsibility on to the periphery.

A careful look at the location of waste-producing and environment-polluting industries, for example, at once reveals the dominance of the core over the

underdeveloped periphery. The developed countries or the core invariably establish their industries away from their home territories. The underdeveloped countries or the periphery reeling under the desperation for jobs, investment and economic development become easy prey to such ‘attractions’ from the developed core. As a result, the periphery gets exploited in multiple ways. First, the wastes produced by setting up of such industries greatly harm the atmosphere of the host countries. Second, the extraction of natural resources and raw material from the underdeveloped areas by the core directly results in not only drain of resources but also unchecked impoverishment of the periphery. And, third the core exploits the vast pool of cheap labour by appropriating the surplus value. As shown by Steven Yearly, “… from the 1970s US companies started moving away from the pioneering domestic legislation to southern countries with laxer laws”\textsuperscript{23}. By making investment in such areas where environmental laws either do not exist or are not rigid, these companies are able to produce their product more cheaply. As Miller points out, “Evidences suggest that the best politically and economically cost-effective way that western democracies have devised to deal with environmental problems is to pass them on to someone else if they can”\textsuperscript{24}. Since the environmental laws are very rigid in developed countries requiring, for example, installation of pollution abatement equipments to protect environment, the entire production process becomes inevitably costlier. It, thus, makes eminent economic sense for the core countries to establish companies in underdeveloped countries where no formal structures exist prohibiting installation of polluting industries.

Another widely acknowledged and influential school of thought within Marxist tradition has been the Frankfurt School out of which emerged the ‘critical theory’. Emerging as a critique of orthodox Marxism, critical theory has enriched the Marxist tradition by extending the spheres of nature, economy, society, politics, psychology and culture. For example, while Karl Marx justified capitalism as a necessary stage in the development of socialism where basic needs of all peoples for food clothing, shelter, and energy would be fulfilled, critical theorists find problems...
with both capitalism and socialism. As Carolyn Merchant argues, "both capitalism and socialism would achieve these human gains over the necessities of nature through the domination of nonhuman nature by science and technology." The important contribution of critical theory is that of the concept of emancipation, in contrast to the views of orthodox Marxists who argue that emancipation can only be achieved by having dominance over the nature, the critical theorists put strong emphasis on the reconciliation with nature. Stephen Hobden and Richard Wyn Jones elucidate the central argument of critical theorists rather succinctly:

For the first generation of critical theorists, emancipation had to be conceived of in terms of a reconciliation with nature. This formulation is in stark contrast with more traditional Marxists approaches which have equated emancipation with the process of humanity gaining ever greater mastery over nature. Marx spoke of the desirability of moving 'from the age of necessity to an age of freedom', which meant in part moving from a period where men and women were dominated by, and in thrall to, natural processes, to a period in which they enjoy dominion. Horkheimer, Adorno, and Marcuse argued, however, that humanity's increased domination over nature had been bought at a very heavy price. This is because the kind of mind-set that is required for conquering nature slips all too easily into the domination of other human beings. It also leads to the hollowing out of some of the finest sensibilities of which human kind is capable. Nothing is valued in and for itself, but is viewed solely in terms of instrumental calculation.

The reconciliation of human beings and nature has been a major contribut


Herbert Marcuse in his article ‘Ecology and Revolution’ argues that there is a contradiction between the capitalist mode of production and conservation of environment. “…the ecological logic is purely and simply the negation of capitalist logic; the earth can’t be saved within the framework of capitalism, the Third World can’t be developed according to the model of capitalism”.29 In other words, capitalism is antithetical to conservation of nature. Today, there are lots of ads, he maintains, which exhort us to save the environment. But, capitalist ecology, in its obsession with wordly comforts is self-centered, and does not pay adequate attention to the issue of conservation of nature. He further argues, “Authentic ecology flows into a militant struggle for a socialist politics which must attack the system at its roots, both in the process of production and in the mutilated consciousness of individuals”30.

Ecofeminism

What makes the environment (ecology) a feminist issue? What are some of the alleged connections between the domination of women and the domination of nature? How and why is recognition of these connections important to feminism, environmentalism, and environmental philosophy? Answering these questions is largely what ecofeminism is about.

The past few decades have witnessed an enormous growth of interest in both women’s movement and the ecological (environmental) movement. Many feminists have argued that the goals of these two movements are mutually reinforcing; involving the development of worldviews and practices that are not based on male-biased models of domination. As Rosemary Ruether wrote in 1975 in her book, New Woman/New Earth:

Women must see that there can be no liberation for them and no solution to the ecological crisis within a society whose fundamental model of relationships continues to be one of domination. They must unite the demands of the women’s movement with those of the ecological

30 Ibid., p. 54.
movement to envision a radical reshaping of the basic socioeconomic relations and the underlying values of this [modern industrial] society.\textsuperscript{31}

Historian of environmental science Carolyn Merchant published her highly influential book *The Death of Nature: Women, Ecology and the Scientific Revolution* in 1980. She argues that prior to the seventeenth century nature was conceived on an organic model as a benevolent female and a nurturing mother. However, after the scientific revolution, nature was conceived on a mechanistic model as (mere) machine, inert, dead. On both models, nature was female. Merchant argues that the move from the organic to the mechanistic model permitted the justified exploitation of the (female) earth, by removing the sorts of barriers to such treatment that the metaphor of nature as alive previously prevented; the mechanistic worldview of modern science sanctioned the exploitation of nature, unrestrained commercial expansion, and socioeconomic conditions that perpetuated the subordination of women.\textsuperscript{32}

In "Nature, Self, and Gender: Feminism, Environmental Philosophy, and the Critique of Rationalism," Val Plumwood argues that the key to woman-nature connections in the Western world is found in "rationalism," that long-standing philosophical tradition that affirms the human/nature dichotomy and a network of other related dualisms (e.g., masculine/feminine, reason/emotion, spirit/body) and offers an account of the human self as masculine and centered around rationality to the exclusion of its contrasts (especially characteristics regarded as feminine, animal, or natural). Plumwood criticizes both deep ecology and environmental philosophy generally for missing entirely the ecofeminist critique that "anthropocentrism and androcentrism are linked." She claims:

> The failure to observe such connections is the result of an inadequate historical analysis and understanding of the way in which the inferioritization of both women and nature is grounded in rationalism, and the connections of both to the inferiorizing of the body, hierarchical concepts of labour, and disembedded and individualist accounts of the self.\textsuperscript{33}


Plumwood concludes that "the effect of ecofeminism is not to absorb or sacrifice the critique of anthropocentrism, but to deepen and enrich it."\(^{34}\)

In "Living with Nature: Reciprocity or Control?" Ariel Salleh documents empirically women's involvement in the environmental movement and argues that it is a "patriarchal belief system" that maintains and justifies both the invisibility of both what women do and the continued destruction of the natural environment. According to Salleh, the rationale of the exploitation of women and of nature has been uncovered by the ecofeminist analysis of patriarchy. What is needed, she argues, is that the unconscious connection between women and nature needs to be made conscious, and the hierarchical fallacies of the Great Chain of Being acknowledged, before there can be any real growth toward a sane, humane, ecological future. Feminists, environmentalists, and philosophers must see that struggles for equality of women and ecological sustainability are interlinked.\(^{35}\)

In "The Power and the Promise of Ecological Feminism," Karen J. Warren, like Plumwood, focuses on the conceptual connections between the domination of women and nature. She argues that because the conceptual connections are located in an oppressive patriarchal conceptual framework characterized by logic of domination, first, the logic of traditional feminism requires the expansion of feminism to include ecological feminism, and, second, ecological feminism provides a distinctively feminist environmental ethic. Appealing to the argumentative significance of first-person narrative and emerging ecofeminist ethics of care, kinship, and appropriate reciprocity, Warren concludes that any feminism, environmentalism, or environmental philosophy that fails to recognize important woman-nature connections is simply inadequate.\(^{36}\)

The views of various ecofeminists basically reveal that no great change can be expected because of the prevalence of masculinity and patriarchal structures, which subordinate all concerns for preservation and nurturing.

\(^{34}\) Ibid.
Section II

Neo-liberal Institutionalism

The growing recognition of environment related problems and concerns as common problems is authenticated by the conclave of world’s two biggest environmental summits namely United Nations Conference on Human Environment (UNCHE) and United Nations Conference on Environment and Development (UNCED). In order to better understand and appreciate such convergence of interests of different states on environmental issues, many scholars of International Relations take recourse to neo-liberal institutionalist theory. According to this theory states often shift loyalty and resources to institutions with a view to achieving international cooperation if these (institutions) are seen as mutually beneficial, and if they do provide states with increasing opportunities to secure their international interests. This section analyzes the neo-liberal institutionalist theory in the context of environmental issues to see as to what extent the possibility of cooperation among States is feasible, as they all too frequently assert their exclusive prerogatives of sovereignty over environmental matters. The neo-liberal institutionalism, as a branch of neo-liberal school of thought, is far less optimistic about the prospects of progress and cooperation than classical liberals. This, however, does not mean that they are as pessimistic as the Realists or Neo-realists. This lack of optimism on the part of neo-liberals emanates from their fear of being labelled as idealists. The international events of the twentieth century (including two world wars and the cold war) have made them wary about being too optimistic. Therefore, keeping with the ethos of contemporary social sciences, many neo-liberals feel far more comfortable with explaining various social-political processes than indulging in the task of predicting the future course of development. However, a careful look at the literature produced by a range of neoliberal institutionalists like Young, Mathews, Porter and Brown, Hurrell and

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Kingsbury\textsuperscript{40} and Hass, Keohane and Levy\textsuperscript{41} reveal that they are primarily interested in ‘problem-solving’ rather than being ‘critical’ in their approaches.

The classical liberalism in contrast to neo-liberalism\textsuperscript{42} takes an optimistic view of the international relations. Closely connected with the emergence of the modern liberal state, the liberal tradition generally takes a positive view of human nature. John Lock, who is considered to be the first liberal thinker of the seventeenth century, saw a great potential for human progress in modern civil society and capitalist economy. Liberals have a great faith in human reason and rationality. According to them, there are certain rational principles of human behavior and market forces, which can be fully applied to international affairs. For the liberals, individuals are self-interested and competitive only up to a point. They share many common interests and can thus engage in collaborative action to achieve those shared interests. These principles had been quite dominant in international relations after the industrial revolution particularly in the western world with the exception of the period of two world wars and cold war during which, ‘power politics’ remained high on the agenda of nation-states.

After the Second World War, while the liberal optimism somewhat remain muted, the end of the cold war renewed it in a big way. Robert Keohane’s assertion in “the possibility of the cumulative progress”\textsuperscript{43} and Francis Fukuyama’s euphoric proclamation of the victory of liberal democracy by giving the notion of “End of History”\textsuperscript{44} are evidences of unprecedented proliferation of liberalism. Such a trend

\textsuperscript{40}Andrew Hurrell and B. Kingsbury, \textit{The International Politics of the Environment} (Oxford: Clarendon, 1992).
\textsuperscript{42}Unlike classical liberals, the neo-liberals are far less optimistic about progress and cooperation. This, however, does not mean that they are as pessimistic as the Realists or Neo-realists are. This lack of optimism on the part of neo-liberals grounded in the consideration of not being labeled as idealists. The international events of this century (including two world wars and the cold war) have made them wary about being too optimistic. Therefore, keeping with the ethos of contemporary social science, many neo-liberals have felt more comfortable about explaining than predicting.
\textsuperscript{44}Francis Fukuyama uses the concept “End of History” to express his avowal that with demise of communism after the end of cold war, the history has now come to an end as there are no other issues left to debate on which could eventually lead to the further development of history. Francis Fukuyama, \textit{The End of History and the Last Man} (New York: Avon, 1992).
helped liberal scholars to enter into those areas of international relations where new vistas of potential cooperation were envisaged.

The neo-liberals in their analysis of international relations and environmental issues argue that liberal democracies are more peaceful and law-abiding than other political systems. However, it does not mean that liberal democracies do not go to war but that they do not fight with each other as often as other political systems do. This claim of the neo-liberals, also known as republican liberals, is based on three assumptions. First, liberal democracies are based on the democratic norms of peaceful resolution of conflict. Second, there is a peaceful relation among the states, which is based on a common moral foundation. And finally, there is economic cooperation. Thus, all these three conditions help in preserving peace among liberal democracies. The neo-liberals assert that growing democratization of states would lead to cooperation among them, which in turn would eventually help sort out the global problems.

Fukuyama, disciple of developmental theory, argues that what is most effective in protecting the environment is neither capitalism nor socialism, but democracy. Fukuyama believes that once Third World countries democratize, they will then deal with environmental consequences of industrialization. Thus, Fukuyama finds democratization of states as the first prerequisite in the direction of environmental protection.45

Hinging on the same argument, Sanjeev Khagram argues that countries with good network of democratic institutions provide a congenial atmosphere for the civil society and environmental movements to resist against those developmental policies of the states which lead to the destruction of natural environment. He further points out that non-governmental organizations with democratic background very easily establish global network with the help of other such NGOs that help in the transnationalization of resistance against states to protect the environment.46

The most perennial question that neo-liberals have faced till date is the environment-development dichotomy. Such a dichotomy, the neo-liberals assert, can be resolved through ‘sustainable development’. Nevertheless, the concept of sustainable development has proved to be one of the most contentious concepts because different scholars interpret it differently. The definition given by Brundtland Commission in 1987 is by far considered to be the most acceptable one. This defines sustainable development as “… development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.”17 The concept of sustainable development focuses attention on finding strategies that would promote economic and social development in ways that can avoid environmental degradation, over-exploitation or pollution, and sideline less productive debates about whether to prioritize development or the environment.

World Development Report 2003 on Sustainable Development also shows that coordination of human behavior is required and those institutions are important that sustain this coordination by channeling interests and by shaping the quality and effectiveness of growth. The main message of this report is that sustainable development requires a broad portfolio of assets in order for people to thrive, and that managing this broad portfolio will require better institutions.18 The report emphasized on improved international co-ordination on environmental issues by keeping in view the frequently expressed doubt if such (environmental) issues can be managed by the international community, which is preoccupied with what is called “high politics’. Therefore, the report asserts that the NGOs and other non-governmental agencies have a positive role to play in the growing concerns over environment and global security.

Although the power of states has remained a central reality of international relations, neo-liberals mainly focused on those factors which help in the generation of cooperation among states on issues of global importance. In this respect, the contribution of neo-liberal institutionalists has particularly been noteworthy. The

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proponents of neo-liberal institutionalism are – Robert Keohane\textsuperscript{49}, Oran R. Young\textsuperscript{50} and most ‘regime analysts’. The basic assumptions of neoliberal institutionalism are:

- States are key actors in international relations, but not only the significant actors. States are rational or instrumental actors, always seeking to maximize their interests in all issue-areas.
- In this competitive environment, states seek to maximize absolute gains through cooperation. Rational behaviour leads states to see value in cooperative behaviour. States are less concerned with gains or advantages achieved by the other states in cooperative arrangements.
- The greatest obstacle to successful cooperation is non-compliance or cheating by states.
- Cooperation is never without problems, but states shift loyalty \textsuperscript{[emphasis originally]} and resources to institutions if these are seen as mutually beneficial and if they provide states with increasing opportunity to secure their international interests.\textsuperscript{51}

The analysis of above listed assumptions clearly shows that neo-liberal institutionalists agree to the point that international system is anarchic. Second, that states are the key actors in the international system. However, neo-liberal institutionalists maintain that although states are important actors in the anarchic international system, they are not the only actors. The non-state actors such as NGOs, institutions and others also play a crucial role in determining the outcome of international system by facilitating cooperation among states. The neo-liberal institutionalism puts emphasis on conception of state rationality and motivation. It maintains that states do not worry about the gains of others and in fact, they cooperate with one another primarily to maximize their absolute gain. Thus, neo-liberal institutionalism believes in the non-zero sum game where all the parties conceptualize some sort of positive outcome in every cooperative enterprise. Matthew Paterson explains this more lucidly:

This assumption relies on the assumption that for most international interactions, ‘states’ margins of survival’ are not small; i.e. states can act in most areas of international relations without worrying whether

The above quote thus clearly points out that states are not always engaged in maximizing their relative-power. There are some areas where mutual cooperation is always considered a rational choice by states. The economic, environment and the like are some areas where cooperation has become an endemic feature of international relations. Therefore, it is generally argued that the neo-liberal institutionalism provides a good framework to study these issues in a more comprehensive way.

(I) Institutions, Cooperation and Environmental Protection

Neo-liberalism Institutionalism gained momentum in the second half of the last century with the rise of new issues on the horizon of world politics. The advocates of this tradition argue that international institutions can make cooperation easier and far more likely. Woodrow Wilson is considered to be the first liberal institutionalist who pointed out the importance of institutions to “transform the international relations from a ‘jungle’ of chaotic power politics to a ‘zoo’ of regulated and peaceful intercourse”\(^\text{53}\). Although, this projection of international relations is an exaggeration, the institutions have come to occupy an important place to make cooperation possible among states to solve some common problems, if not all. The works of Keohane,\(^\text{54}\) Krasner,\(^\text{55}\) Rittberger,\(^\text{56}\) Young,\(^\text{57}\) Oye,\(^\text{58}\) explain in detail all the aspects associated with institutions that help in facilitating cooperation in international relations on

\(^{52}\) Paterson, no. 6, p. 63.
environmental issues. According to neo-liberal institutionalists, institutions help in the formation of regime at international level. However, there can be regimes without the concrete expression of institutions. Keohane, Hass and Levy argue:

> Effective institutions can affect the political process at three key points in the sequence of environmental policy making and policy implementation: (1) They can contribute to more appropriate agendas, reflecting the convergence of political and technical consensus about the nature of environmental threats; (2) they can contribute to more comprehensive and specific international policies, agreed upon through a political process whose core is intergovernmental bargaining; and (3) they can contribute to national policy responses which directly control sources of environmental degradation.59

Robert Keohane who is primarily associated with neo-liberal institutionalism defines institutions as, “persistent set of rules (formal and informal) that prescribe behavioral roles, constrain activity, and shape expectations”60. This is a broad definition of institutions which does not locate institutions only within a given space and time. In order to remain clearly focused on the definition of institutions Keohane further observes, “Specific institutions can be defined in the first instance in terms of rules; but we must recognize that specific institutions are embedded in practices”.61

Neo-liberal institutionalists put emphasis upon the need for formation of various kinds of international organizations, NGOs and ‘institutions’62 with a view to finding solutions to the global environmental crises. It has been argued by advocates of this approach that in the international environmental politics a wide range and large number of non state actors – including companies, local authorities, financial institutions, social groups, and individuals – are at least as important as state actors.

As against the established notion that states are legal parties in any diplomatic deliberation, the supranational organization such as the EU and other non-state actors

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61 Ibid.
62 In this literature, ‘institutions’ are given two different meanings. Some scholars use institutions synonymously with organizations and assess the impact and potential contribution of national organizations in the promotion international environmental cooperation. And, some analyze the role of social institutions in terms of the protection of environment. Peter Haas, Robert Keohane and Marc Levy take the former meaning of institutions while Oran Young believe in the latter.
have played a primary role in the politics of international environmental problems. The EU has been a party to many international environmental agreements and treaties. In other words, the neo-liberal institutionalists account of global environmental change contest the state-centric biases of realist explanations. With stress on environmental management and problem-solving approach, the neo-liberal institutionalist perspective focuses on the regime formation in the context of environmental problems, in structuring expectations and behavior in the international system. Although, institutions building and regime formation are simultaneous processes, we have delineated them and discussed them separately by arguing that institution building is the first step in the process of regime formation. However, as we have argued earlier, there can be a regime without the concrete expression of institutions. In such cases, the broader definition of institution is applicable where institutions are not mere organizations with physical identity but are a set of abstract norms perceived by the parties involved.

Neo-liberal institutionalists take the environmental issue as a new area of potential cooperation in international relations. Hurrell and Kingsburg argue: ‘international cooperation is required both to manage global environmental problems and to deal with domestic environmental problems in ways that do not place individual states at a political or competitive disadvantage’63. The non-state actors and a host of different actors, other than states, are seen as important actors in the collective pursuit for environmental stability and environmental sustainability. N. Choucri argues:

Institutionalized sovereignty does not imply that states are the only (or necessarily the most important) agents or institutions responsible for transforming (depleting or degrading) social and natural environments... many, if not most, of the more powerful human impacts on the natural environment are exerted by private firms, corporations, and comparable organizations and institutions64.

64 N. Choucri as cited in Marc Williams, “International Political Economy and Global Environmental Change, in Vogler and Imber, no. 6, p. 45.
Taking the same argument further Klinger in an analysis of debt-for-nature swaps argues, “the anarchy of international politics is not always incompatible with cooperation, but that cooperation will not always come from the efforts of state.”

Thus, from the neo-liberal institutionalists point of view, the international system is perceived as a series of network and transactions which involve a number of actors, and as one in which cooperation is more than just a coincidence of short term interests. On various problems of environmental degradation like global warming, ozone depletion, sea pollution, etc., neo-liberal institutional perspective has provided thorough frameworks to study them and provide possible solutions to tackle them.

Matthew Paterson, on the issue of global warming remarked:

Of these basic perspectives [neorealist and neoliberal institutionalists] on world politics, neoliberal institutionalism produce the more satisfactory explanatory account of the international politics of global warming. The account of neorealism, that outcomes are generated as a product of the distribution of power capabilities, is simply inadequate. … Neoliberal institutionalism’s focus on institutions allows us to more space to explain many of the developments which ultimately produced the framework convention.

Some of the questions that frequently emerge are: how do such perceptions arise? How do institutions modify states behaviour on matters of environmental policy? Or what are those mechanisms through which institutions exert their influence on states?


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66 Paterson, no. 6, p. 64.
70 Edward A. Parson, “Protecting the ozone layer” In Ibid, pp. 27-74.
Protocol on stratospheric ozone depletion, and oil regulations under marine pollution treaties cast light on how international environmental institutions influence state behaviour and provide considerable insight into mechanisms by which they do so. Ronald B. Mitchell argues that there are two mechanisms through which institutions wield their influence on states. According to him:

> The research conducted to date has demonstrated that international environmental institutions wield influence both through rationalist mechanisms in which states engage in self conscious processes of identifying and responding to material incentives and through constructivist mechanisms in which norms, identities and ideas play far more important roles than interests and power. 73

With respect to “rationalist mechanism” Mitchell argues:

> One strain of thinking is that international environmental institutions influence behaviour through a “logic of consequences” in which states alter their behaviour in response to changes in the way in which they calculate what behaviours are in their best interests. In this model, international environmental institutions alter behaviour by providing essentially instrumental changes to the world in which states make decisions, tilting the incentives and opportunities they have to engage in the behaviours the international environmental institution seeks to promote. 74

Thus international environmental institutions levy sanctions against those who fail to fulfill their commitments or offer rewards as incentives for states to fulfill the same. Another important instrument that institutions have devised to increase the compliance of states is to increase the capacity of member states. The capacity building technique has particularly been popular among the developing countries which could not fulfill their environmental commitments due to lack of financial assistance and technical know-how. Another mechanism of influence which Mitchell discusses in details is “constructivist mechanism”. In the words of Mitchell:

> Another strain of thinking is that international environmental institutions influence state behaviour through a “logic of appropriateness” in which state behaviour is explained as a function of the identities states adopt and

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74 Ibid., p. 21.
the behaviours considered appropriate to those identities. In this model, the behaviours of states results not from decisions about what is in the state’s interest but rather from assessments of what identity the state seeks to promote or project and what is the behaviour appropriate to that identity.75

He further observes:

According to this view, international environmental institutions can induce behavior change by promoting improvements in and diffusion of scientific and technical knowledge. Through the process of scientific investigation and assessment, not only do states identify and improve their understanding of their material interests but they also develop new identities and roles over time. The process by which scientists working on behalf of a government to understand the environmental impacts of human behavior is likely not only to increase their understanding of those impacts but is also likely to influence their commitment to both environmental goals and international pursuit of those goals.76

Litfin argues that international environmental institutions promote new norms and alter the discourse and rhetoric that surround an environmental issue and thereby making it more difficult (though surely not impossible) to sustain arguments that economic or security interests should take precedence over environmental ones. While explaining the role played by institutions in the success of environmental negotiations, she points out:

Although international treaties and intergovernmental organizations have become increasingly important in addressing environmental problems, the driving force behind virtually all of these apparently state centric activities has been popular pressure expressed through NGOs. Rarely does the state, even in its most environmentally sensitive agencies, take a proactive ecological stance – either internationally or domestically. NGOs are the driving force behind efforts to cope with ecological problems, at every level of social organization. Moreover, the intersection of environmental NGOs with development organizations, indigenous peoples, and human rights groups is indicative of the complex web being spun by global ecopolitics.77

Thus, it clearly becomes evident that international environmental institutions have come to occupy an important place in the international politics of environment.

75 Ibid., pp. 21-22.
76 Ibid., p. 22.
However, unless these institutions pool their resources collectively towards a particular issue and formulate some sort of regime, these institutions cannot make much difference. International institutions play an important role in the formation of international environmental regimes. The next section studies in detail the processes of regime formation and the manner in which environmental regimes create conditions for the compliance of environmental commitment by various parties involved.

(II) International Environmental Regimes

It was in the 20th century that regimes came to be regarded as a global phenomenon. States are deeply enmeshed and the rules, regulations and institutions, which govern their behavior, have become complex. This in turn has brought the issue of mutuality of rules and regulations to the fore of international politics. “There is now no area of international intercourse devoid of regimes where states are not circumscribed, to some extent or other, by the existence of mutually accepted set of rules”78.

The concept of regime is of relatively recent origin that became a part of common parlance in the 1970s. Although the rules regulating the behavior of states have been in existence since the origin of the state system, it was only in the 1970s that a series of developments encouraged theorists in international relations to return to the long established theoretical concerns with the role of rules in the international system.79

There is no single, universally valid definition of the term ‘regime’. It was only in the 1980s that some systematic efforts were made to define the term. Stephen Krasner’s definition was one such attempt, which has by far come to be widely accepted as the most accurate definition. Regimes are defined by him as a “set of implicit or explicit principles, norms, rules and decision making procedures around which actors’ expectations converge in a given issue area of international relations”80.

79 Ibid. p. 300.
This definition very efficiently encapsulates the complexity of the phenomenon. His definition reveals that a regime is more than a set of roles which, presupposes quite a high level of institutionalization. However, this definition, though widely accepted, has been attacked by several critics for being ambivalent and ambiguous. Responding to such criticism, Krasner undertook an attempt to further simplify it by outlining the four core elements of this definition. As he puts it:

1. Principles are represented by coherent bodies of theoretical statements about how the world [is] working...
2. Norms specify general standards of behaviour, and identify the rights and obligations of states...
3. Rules operate at a lower level of generality to principles and norms, and they are often designed to reconcile conflicts, which may exist between the principles and norms...
4. Decision-making procedures identify specific prescriptions for behaviour, the system of voting, for example, which will regularly change as a regime is consolidated and extended...81

It is worth noting here that although regime theorists acknowledge that international organizations can be brought within the fold of regime theory, they insist that their approach encompasses much more. This fact can be better understood by examining the typology of regimes as given by Richard Little. The two dimension i.e. vertical and horizontal or formal agreements and informal agreements or informal perceptions establish a typology of regimes. “A regime can be associated with a highly formalized agreement or even the emergence of an international organization. But, at the other extreme, a regime can come into existence in the absence of any formal agreements”82.

Richard Little argues that no regime can be formed in the absence of formal agreements. Also, no convergence in expectations that rules will be adhered to could be possible without formal agreements. However, Little argues that tacit regimes can exist even in the absence of formal rules if there are expectations that rules will be observed informally.83 John W. Meyer, et al. in their article explain the development of regime by arguing that the process includes the rise of concerned international

81 Ibid., pp. 4-5.
82 Little, no. 78, pp. 302-3; For detailed analysis of regimes as social institutions see, Oran R. Young, “Regime Dynamics: The Rise and Fall of International Regimes” International Organizations, Vol. 36, No. 2, Spring 1982, pp. 277-97.
83 Little, no. 78, 303.
nongovernmental association and discourse which in turn lead to interstate treaties and later to intergovernmental organization. This long process is derived by two factors of international importance. According to them:

> Behind this long process, process ... [they] argue, lie two larger forces that help drive its development: the long-term expansion of rationalized and authoritative scientific interpretation, which structures perceptions of common environmental problems, and the rise of world associational arenas—principally the United Nations (UN) system—with agendas open to broad concerns such as the environment. 84

Both neo-liberal institutionalists and neo-realists acknowledge the importance of regime in the contemporary international relations. They start with a common theoretical premise that a regime represents the response of rational actors operating within the anarchic structure of the international system. However, beside this basic common assumption, the two are radically different from each other in terms of their understanding of what regime is and how they function? Neo-liberal institutionalists argue that regimes are needed to overcome the problems generated by the anarchic structure of international system. 85 They argue that regimes help states to collaborate to overcome such problems. Neo-liberal institutionalists take the help of micro-economists to explain how one state helps other states and vice versa to collaborate. Micro-economists study the behavior of economic units operating under the condition of perfect competition. This situation helps them to generate optimum production. This view is very much close to the view of international relations, whereby a clear-cut analogy can be drawn between economic units and international actors working in the international anarchy. This image of economic market provides very little insight for neo-liberal institutionalists. But, when it comes to the phenomenon of market failure, the micro-economists provide for an alternative model of economic marketplace. It is argued, “when market failure occurs, therefore, micro-economists accept that it is necessary to find an alternative mechanism to the market – one that generates collaboration rather than competition”. 86 They pleaded for states to

86 Ibid., p. 307.
intervene and require economic actors to collaborate rather than compete. However, there is no overarching power over the sovereign states, which can require them to collaborate rather than compete to solve the global problems like environmental change. Therefore, regimes provide such a mechanism, which helps states to collaborate to tackle the global problems.\(^8^7\)

As against the structuralists’ analysis of regime creation, which is pioneered by the neo-realist theorists of international relations, Stephen Krasner argues that regimes gain independent identity of the factors which led to their creation in the first place. He argues, although in the first place powerful states may create regimes to enhance their interests but over the period of time the relationship between power distribution and regime characteristics may drift apart. The basic reason for such incongruity in this relationship may be ascribed to the dynamic nature of power distribution among the states on the one hand and the stable rules, principles and norms of regimes on the other. Therefore, it is not always possible to agree to the proposition that regime will necessarily enhance the interests of those who create them. In the words of Krasner:

> Regimes may assume a life of their own, a life independent of the basic causal factors that led to their creation in the first place. There is not always congruity between underlying power capabilities, regimes, and related behavior and outcomes. Principles, norms, rules, and procedures may not conform with the preferences of the most powerful states. Ultimately state power and interests condition both regime structures and related behavior, but there may be a wide area of leeway.\(^8^8\)

Therefore, Krasner advocates the need for cognitive analysis of regime formation and effectiveness. He argues, “Knowledge alone is never enough to explain either the creation or the functioning of a regime. Interests and power cannot be banished. But


knowledge and understanding can affect regimes. If regimes matter, then cognitive understanding can matter as well”.  

(IIa) Regime Process and Effectiveness

By the year 2000, there were over 130 multilateral environmental agreements, some of which are today regarded as ‘dead letters’, while others as merely symbolic. Nevertheless, several case studies show that many environmental regimes have been effective in changing the behaviour of states in line with their aims and objectives. Owen Green argues that the process of regime development can be divided into several phases. These are agenda formation; negotiation and decision making; implementation; and further development. According to him, these phases often overlap and interact. A careful look at the division of these four phases provides significant insights in understanding the dynamics of regime formation.

The first phase is agenda formation. Some of the crucial steps involve at this stage are conceptualizing the problem, debate and discussion by relevant policy communities leading to the recognition of the problem. Once this basic objective is achieved, the issue is placed on the international political agenda, followed by negotiations and decision-making processes. However, in the context of environmental issues, the whole process of recognizing a problem is so time taking that by the time the nature of problem is grasped, it might be too late to prevent major impacts or even inevitable disaster. Without careful scientific monitoring and assessment, problems such as air pollution, depletion of fish stock, biodiversity loss and climate change may prove a cumbersome process. Therefore, the process of scientific ‘knowledge production’ serves an important role in environmental politics.

The second stage involves negotiations and agreements or commitments. Once the issue gets established as a priority item on the agenda in the course of first stage, the negotiation takes place and decisions are made about preferred policies and rules to address the issues. It is at this stage that choices are made about commitments, policies and measures. The policies may differ depending on the ways in which they

distribute the costs and benefits among different social groups and actors. Equity issue is generally central to the negotiation process. To be negotiable, legitimacy, commitments must be perceived as reasonably fair and equitable. However, equity in the international environmental negotiation may not be forthcoming. But in such cases, parties have to find ways to define commitments that they at least appear equitable from certain basic standpoints.

The implementation is the third stage. It includes all the activities implementing the decisions and policies adopted in response to the problem. Development and operationalization of agreed programmes and all other activities aimed at appropriately changing governments, social and economic practices with agreed rules and norms.

Finally, establishment of regime in itself is not enough. It requires monitoring and further development in order to maintain or improve its effectiveness. For example, certain modifications in the institutions and commitments required essential in order to adapt to the changing circumstances.90

The Montreal protocol, signed in 1987 is an explicit example designed to prevent the depletion of the ozone layer. It was widely regarded as a success story in international regimes. The agenda formation phase started when two US based scientists published their findings. Their research demonstrated that Chlorofluoro Carbons (CFCs) emitted into the atmosphere could lead to the destruction of stratospheric ozone. Initially, the countries of Japan were ‘laggards’: skeptical about the threat supportive of their major companies. Thereafter, the process of negotiation and decision-making went through the discovery of a deep ‘ozone hole’ over the Antarctic by the scientists. Antarctic Survey proved a great success in the process of regime formation. As a result, the governments that had previously vetoed stringent international agreements now had every interest in reversing their position. The 1987 Montreal Protocol designed to cut the consumption of CFCs by 50% by 1999 and with there emerged a consensus among developed countries to adopt a complete ban.

90 Owen Green, “Environmental Issues”, in Baylis and Smith, no. 60, pp. 398-400; also, Young, “International Regimes: Problems of Concept Formation”, World Politics, Vol. 3
differences between developed and developing countries with regard to ban of CFCs were sorted out by establishing a Multilateral Fund. Consequently, the developing countries agreed to phase out consumption of CFCs by 2010. The process of implementation and further development followed, leading to the establishment of what is today universally recognized as a successful environmental regime.\(^9\)

It is not only the issue of ozone depletion around which a successful regime has been created. Oran R. Young listed various successful regimes on different environmental issues in one of his articles on environmental regime formation. The list of different environmental issues around which successful international environmental regimes were created has been given in Table 1.

<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Regime</th>
</tr>
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\(^9\) For detailed discussion see, Paterson, no. 6; Owen Green, “Environmental Regimes: Effectiveness and Implementation Review”, no. 5.
Regional pollution | Convention for the Protection of the Mediterranean Sea Against Pollution, 1976 and subsequent protocols.
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Radioactive fallout | Convention on Early Notification of a Nuclear Accident, 1986; and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, 1986.
Acid precipitation Europe | Convention on Long-Range Transboundary Air Pollution, 1979 and subsequent protocols.


However, mere establishment of regime is not enough. It is the implementation and effectiveness of environmental regimes which really matter. The evaluation of regime effectiveness is the most difficult task since there is no unified approach and standard parameters against which evaluation can be undertaken. Underdal summarized the most common conceptual problems that come in the way of measuring the effectiveness of regimes. These are:

(i) What precisely constitutes the object to be evaluated? (ii) Against which standard is the object to be evaluated? (iii) How do we operationally go about comparing the object to our standard; in other words, what kind of measurement operations do we perform in order to attribute a certain score of effectiveness to a certain object (regime)?

Oran R. Young in his article, however, has shown ways to evaluate the effectiveness of environmental regimes. According to him, one way of evaluating the effectiveness

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of environmental regimes is to access how much of what has happened in the wake of regime formation would not have occurred in the absence of the regime created. The second way involves devising an index that can be used to measure empirically the performance of individual regimes. As he notes:

To identify the signal institutional effects and to track variations in the strength of this signal in a range of specific settings, therefore, we need to find ways to pin down causal connections between institutions and outcomes. Ideally, we should devise as well an index of institutional effectiveness—treated as a dependent variable that would make it possible to engage in systematic comparisons designed to ease out conclusion about the determinants of institutional effectiveness across a range of circumstances.93

The effectiveness of regime depends upon the implementation of rules and norms set by regime. As Owen Green points out:

In relation to implementation processes and regime effectiveness, the links between international environmental institutions, states and non-states actors and processes appear to be particularly important and complex. [Because] implementing environmental commitments often involves the complex task of changing the practices of a wide range of non-state actors and semi-autonomous state industries or agencies and local authorities.94

According to Owen Green, achievement of changes in behavior, which a regime seeks to promote, depends substantially on factors that are external as well as internal to the international institutions themselves. So far as external factors are concerned, these include the nature of issue area, e.g. the unexpected appearance of ‘ozone hole’ over Antarctica helped galvanize support for phasing out CFCs. Other environmental problems may be less likely to become clearly transparent to generate such a massive support. Another factor may be monitorability, the ability to monitor either the behavior of relevant factors and processes or the implementations of potential commitments. Green argues that the awareness of the fact that others can monitor their environment performance could affect the behavior of government and other actors.95

94 Green, no. 91, pp. 198-99.
95 Ibid., p. 200.
(c) Epistemic Communities

Peter Hass introduced the term ‘epistemic communities’ in the lexicon of environmental studies. He argues that growing international environmental cooperation is an outcome of efforts of ecological epistemic communities. He defines epistemic communities as “transnational networks of knowledge based communities that are both politically empowered through their claims to exercise authoritative knowledge and motivated by shared causal and principled beliefs”.96

Chris Brown demonstrates the clout which epistemic communities have of late come to acquire in the context of environmental issues:

It is clear that, in the right circumstances, they can be very effective; governments can be made to feel that they have no alternative other than to act in the way that scientific consensus indicates... the basic influence exerted by epistemic communities arises simply from their ability, to provide a dominant interpretation of the nature of the problem. This is a form of sovereignty – the sovereignty of science, of “the facts” – which contrasts interestingly with the sovereignty we are more used to discussing in international relations.97

Further, a series of multilateral conferences and conventions held to reduce the emission of Chlorofluoro Carbons (CFCs) gases in order to save the ozone layer as a result of the scientific consensus generated by the epistemic communities is a testimony to the growing significance of such expert communities in the area of environment protection. As shown by Brown:

The Vienna Convention for the promotion of the Ozone layer in 1985, protocols on the same subject of Montreal 1987 and London 1990, and discussion at the United Nations Conference on Environment and Development (UNESCO) in Rio in 1992 and in a number of subsequent fora, bear witness to the perceived importance of ozone depletion and the need to cut the emission of CFCs.98

It may be pertinent to see how did this perception arise? The states, particularly developing states, are most likely to use those technologies that are relatively cheaper.

98 Ibid., p. 233.
However, they have long-term interest in avoiding those causes, which ozone layer, but their short-term interests do not allow them to do so. Epistemic communities have played a critical role in this direction. Their collective pressure led to the emergence of a consensus among scientists that it is a problem that longer be avoided and different governments are being lobbied and motivated in this direction. Thus, the epistemic communities have a powerful influence on states because of the “possession of highly specialized technical knowledge than mere conventional political sources.”

Even though epistemic communities have largely proved useful, their effectiveness depend upon the prevalence of condition that the issue should be the core interest of the state. For example, in the 1980s the issue of nuclear winter, supported by the weight of scientific opinion, had little influence on the nuclear powers. Nuclear deterrence was considered so basic a component of foreign policy that the nuclear powers were not prepared to listen to anything that might undermine it. In such circumstances, therefore, epistemic communities were of little use.

However, the overall analysis of epistemic communities shows their importance in the international politics. Chris Brown expresses his concern that it is instructive to see if their influence extends into other kinds of agents in international politics. In sum, the discussion that runs through the preceding pages demonstrates the neo-liberal institutional theory of international relation has been by far more successful in addressing most of the environmental issues than realist/Marxist/eco-feminist theories are merely explanatory and critical of their approach. The realists have failed to suggest any viable solution to resolve environmental problems. Environment cannot be protected by having a love of nature as advocated by realists but by maintaining harmony with the environment.

99 Ibid.
100 The concept of nuclear winter is a hypothesis which proposes that the explosion of a proportion of the nuclear arsenals of any one of the nuclear powers would create climatic as would be devastating to at least the Northern hemisphere, if not the world as a whole.
101 Ibid., p. 234.
102 Ibid.
Marxists and ecofeminists in one way or the other are pessimistic about the existing structures of state and society and advocate the replacement of them by new one which would take into account the environmental issues. These theories, thus, do not place any hope on the existing structures. However, there is no guarantee as if the new structures would be more suitable for resolving environmental issues. Thus, we are left with the neo-liberal institutional theory which provides a thorough analysis of environmental issues. If we recapitulate the basic arguments developed by this approach, it would be easier to make a strong case for the neo-liberal institutional theory to address the global environmental issues. The neo-liberal institutional theorists advocate: one, that the non-state actors such as NGOs, and other institutions play a crucial role in determining the outcome of international system by facilitating cooperation among states; two, states tend to behave as an absolute-gains-maximizer rather than relative-gains-maximizer in any international deliberative enterprise. This makes cooperation among states even more likely, since mutual cooperation is always considered a rational choice by states; third, International institutions help creating regimes and wield influence through rationalist and constructivist mechanism; fourth, regimes act as a special kind of mechanism, which helps states to collaborate to tackle the global problems and fifth, epistemic communities can collectively or independently lead to the convergence of interests among states on environmental issues. These are some of the hypothesis developed by neo-liberal institutional theorists which are claimed to be applicable across the world. This provides us with a broad framework to ascertain whether or not these hypotheses are applicable in case of India which is a developing country. In the next chapter, an attempt would be made to interrogate Indian foreign policy to see whether or not it testifies to these hypotheses.