CHAPTER 6

INDIAN ENVIRONMENTAL LAW AND CLIMATE CHANGE

One fact seems to stand out: that a divorce from the soil, from the good earth, is bad for the individual and the race.

Jawaharlal Nehru, The Discovery of India.

Introduction

Man has continually exploited the environment from time immemorial to meet all his needs and desires, from the basic ones of food, water, shelter and clothing to fulfil his penchant for a luxurious life. In the recent past, burgeoning population coupled with modern man’s craving for comfort and luxury has put an intolerable strain on the environment. Man has constantly to sum up experience and go on discovering, inventing, creating and advancing. The man’s capability to use his surroundings, if used wisely, can bring to all people benefit of development and opportunity to enhance the quality of life and wrongly or needlessly applied the same power can do incalculable harm to human beings and the environment.

While academics, media and organizations working for the environment have been trying to get the message across and advocate a more stringent life style, particularly in the developed world, it is now

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1 Cited in A. Damodaran, India. Climate Change and the Global Commons, 153 (2011).
evident that without adequate implementation of law on environment protection, it will be impossible to achieve the objective of leaving the earth for our children, at least in the same shape as we received it. Replenishment and preservation of the environment for future generations can’t be realised by the efforts of few persons or organization alone. There has to be a global effort to minimize pollution and make a more judicious use of resources. Most countries of the world, including India, have formulated laws to realise this much coveted goal.4

Before discussing the India’s policies and role in climate change mitigation law it would be appropriate to briefly review the origin and growth of environmental law in India and various laws and policies implemented by the Indian government from the protection of an environment.

6.1 Origin and Development of Environmental Law in India: A Brief Overview

The prevalence of environmental protection movement has been fairly strong in all the developed societies like India, Romans, Greek and Chinese. Though in those times the problem of environmental pollution was not grave, even then the architects took due care in designing the buildings and cities to provide for satisfactory disposal of waste and garbage.5

The study of environmental protection policy of India may be divided into two groups; viz., pre-independence era and post-independence era.

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4 Supra note 2 at 137.
5 Vikas Vashishth, Law and Practice of Environmental Law in India, 5 (2002).
6.1.1 Pre-Independence Era

6.1.1.1 Ancient Period

The concept of environment protection and conservation is not new in India. The idea and practice have always been an integral part of our customs, traditions and laws...The Vedas, Puranas, Upanishads and other scripture talk about the indebtedness of man to nature and emphasize the importance of maintaining an ecological balance. The most detailed and perceptive of the ut supra are the provisions found in Kautilya’s Arthashatra written between 321 and 300 B.C. It provides for fines for polluting damaging forests, selling trees etc. The Mahabharata warned that while it took only a few to defile and cause pollution, the whole society suffers from the various diseases thus caused. Charak’s mention of vikriti (pollution) warned the people of the side effects of foul air and polluted water. In the history of environmental law we will find that Indian literature is replete with provisions to preserve environment for degradation. There is, however, no mention of industrial development as it is the outcome of last century. The laws laid down by Kautilya, concerning forests, include protection of forests by the State, fines for cutting trees and damaging forests, fines and punishments for causing harm to animals, establishment of forest, reserves for animals and payment of fees for hunting. Ashoka, in his fifth pillar edict prohibit the killing of certain animals and birds, the destruction of forest and the killing of other specified animals on specific days. The Mauryan period received the

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6 For detail discussion see supra chapter 1 of the thesis.
7 Supra note 2 at 137-138.
9 Supra note 2 at 138.
utmost attention from environment protection point of view...[T]he environment conservation, as it existed during Mauryan period continued more or less unaltered in the subsequent reigns until the end of Gupta empire in 673 A.D. Prohibition for forest destruction and animal killing were announced by other Hindu Kings. However, the end of Gupta empire saw reversion of environment conservation as established in Maurya era.  

6.1.1.2 Mughal Period

During Mughal period, a significant contribution from the point of view of environment conservation has been the establishment of significant gardens, fruit orchards and green parks, round about the emperor palaces, central and provincial headquarters, public places on the bank of rivers and in the valley and dales which they used as holiday resorts or places of retreat or temporary headquarters during the summer season. The famous Mughal gardens which attract every nook and corner of the country even today are thus pleasant cultural heritage of imperial Mughals. In addition, the religious policy of Akbar based on the principle of complete tolerance as reflects concern for protection for birds and beasts in so much as endeavours were taken during his reign to stop their unnecessary killing. The religious policies of Akbar were pursued in principle though sometimes differing in detail by Jehangir and Shahjahan. The rural communities enjoyed untrammelled use of forests and wastes in their vicinity during this period. The wastes and forest lands were treated as open access resources. The product of the forests conserved by the local people themselves were exempted from cess. However, untrammelled use of forests and other natural resources did not mean that they could

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10 Supra note 5 at 7.
11 Ibid.
be used or misused by one and all without restraints. They were quite effectively managed with the help of a complex range of cultural features as well as the economic activities of local communities.  

6.1.1.3 British Regime Period

During the initial stages of colonial rule in India, little concern was shown towards the environment and its protection... During the 19th century, some legislative provisions concerning the environment were formulated. The focus of these legal provisions was on forests, wildlife and water pollution. The early days of British rule in India were characterized by a total indifference to the needs of forest conservation... [T]he British Administrators proved predators causing a “fierce onslaught” on India’s forests. At the same time, this regime saw the beginning of organized forest management. It was the forestry, wildlife and water pollution which attracted the rulers... During the nineteenth century, attempts were made to regulate water pollution, wildlife and land use by enacting laws by the British Government. These laws, however, had a narrow purpose and a limited territorial approach. The imperial forest department was formed in India in 1864 under the first Inspector General of forests, Dietrich Brandis, a German. However by this time Britain, better known as the world leader in deforestation and wildlife destroyer, had done its act to destroy the environment, which till date has not been replenished. By this time the government was aware of the environmental issues and early environmental legislations bears testimony to the fact. Various

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12 Chattarpati Singh, Common Property and Common Poverty - India’s Forests, Forest Dwellers and the Law, 10 (1986).
13 Supra note 2 at 138.
15 Supra note 5 at 7.
16 Supra note 8 at 146.
Acts enacted prior to independence are – The Hyderabad Forest Act of 1833, Shore Nuisance (Bombay and Kolaba) Act of 1853, Oriental Gas Company Act of 1857, East India Irrigation and Canals Act of 1859, Indian Penal Code of 1860, Sarai’s Act of 1867, Cattle Trespass Act of 1871, Northern India Canal and Drainage Act of 1873, Madras Forest Conservation Act of 1882, Explosive Act of 1884, Wild Bird Protection Act of 1887, Fisheries Act of 1897, CrPC of 1898, Motor Vehicle Act of 1939, Mysore Forest Act of 1940 etc. Enactment of Forest Act, 1865 was the first step at asserting the state monopoly rights over the forests... The Act was revised in 1878 and extended to the most of territories under the British Rule. Subsequently, the first forest policy was enacted in 1894. However, the effort was piecemeal and fragmented and its implementation was tardy. The above said laws were made by the Britishers for their own interests and were of limited effect.

6.1.2 Post-Independence Era


With the dawn of independence, India stood up to achieve economic development in order to become self-dependent. Industrialization became the main source of gaining the goal of economic development. The industrialization has thus started growing rapidly and has consequently bring to the forefront the problem of urbanisation. Thus, the natural environment has been affected adversely.

17 Id., at 147.
18 Supra note 14.
19 Supra note 5 at 9.
20 Ibid.
After independence, one of the first government publications pertaining to forests was intended to publicise the contributions of India's forests towards war efforts. Factories Act, 1948 was passed. The River Board Act, 1956 made provisions for the development of inter-state rivers and river-valleys and prevention of water pollution. The five-year plans began to incorporate environmental considerations into this format. The Indian Government became conscious of the dangers of environmental pollution as early as 1969... The environmental problems issue is on national agenda of planning and policy since 1969, three years prior to Stockholm Conference. Evidences of environmental degradation can be seen because of increasing pollution, loss of vegetal cover, biological diversity, excessive concentration of harmful chemicals in the ambient atmosphere and in food chains, growing risks of environmental accidents and threat to life support system. All this has prompted the independent Indian Government to provide scattered provisions in the various relevant legislation. Prominent amongst them being Industries (Development and Regulation) Act, 1951, Inflammables Substance Act, 1952, Mines Act, 1952, Merchant Shipping Act, 1958, Atomic Energy Act, 1962 and Insecticides Act, 1968.

6.1.2.2 Policies for The Environment Protection from Stockholm Period Onwards

The global interests and concerns about the environmental pollution has arisen because of the First Conference on Human Environment convened by the 24th General Assembly of United Nations Organisations at Stockholm in June, 1972. India is a signatory to the Stockholm declaration. Therefore, it owes a duty towards the

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21 Supra note 2 at 140.
22 Supra note 5 at 9.
23 Supra note 8 at 147-148.
world to protect and improve the environment by framing the long-

term action plan and implementing them.\textsuperscript{24}

Stockholm Conference, 1972, is to be credited for accelerating the pace of environmental legislation in India. The UN Conference on Human Environment and Development held at Stockholm is considered as Magna Carta of environment protection and sustainable development....It recommended national and international level cooperation in identification and appraisal of environment damages and problems of global significance.\textsuperscript{25} In the wake of growing attention in world on global environmental problems since the 1970s, countries such as India has developed a policy frameworks to address these problems in a manner that is consistent with national priorities. This also led India to participate in global debates and discussions on crafting governance regimes for global public goods such as climate... India’s quest for environment protection gained greater currency in the days following the Stockholm Summit.\textsuperscript{26}

A significant fallout of this conference has been the enactment of Indian laws since 1972, chiefly water (Prevention and Control of Pollution) Act of 1974, Air (Prevention and Control of Pollution) Act of 1981, Factories Amendment Act of 1987.\textsuperscript{27} In the year 1972, the Wildlife Protection Act was enacted by the Parliament. An important legislation, entitled the Forest Conservation Act of 1980, was passed by the Parliament.\textsuperscript{28} The underlying structure of governance envisaged by the Forest Conservation Act, the Air Act and Water Pollution Act

\begin{footnotes}
\footnotetext[24]{\textit{Supra} note 5 at 10.}
\footnotetext[25]{\textit{Supra} note 8 at 148.}
\footnotetext[26]{\textit{Supra} note 1 at 199.}
\footnotetext[27]{\textit{Supra} note 2 at 149.}
\footnotetext[28]{The objective of legislation was to prevent diversion of forests land in India for non-forestry purposes.}
\end{footnotes}
was different. While the Forest Conservation Act basically tried to bring the central governments to control decisions on changes in the use of forests by states, the purpose of Air Act was to control and abate pollution for improved environmental welfare. The same was true for the water Act as well.\textsuperscript{29}

Environment Protection Act of 1986, which came out of the shadow of the Bhopal gas tragedy, was a radical legislation that corrected the infirmities of the Water and Air Acts and also brought under its rubric all elements of the environment for comprehensive protection.\textsuperscript{30} The Environment Protection Act of 1986 brought in comprehensive rules on hazardous wastes and bio-engineered organisms including regulation of GMOs and also shifted the focus of environmental management decisively in toxic waste management. In the year 1988, the next landmark initiative was taken up in the shape of the National Forest Policy, which superseded the Forest Policy of 1954.\textsuperscript{31} The other matters which has become significant in recent times relates to bio-technology and hazardous wastes emanating from trans-boundary sources.\textsuperscript{32} There are over two hundred central and state legislations that have some bearing with environmental protection.\textsuperscript{33}

The story of the evolution of India’s Environmental Policy and legislation serves to bring out the fact that the implementation of decentralization measures has been patchy. Nevertheless, India’s policy framework on environmental protection provides enough scope for promoting diverse and local based approaches to global

\textsuperscript{29} Supra note 1 at 200.
\textsuperscript{30} Ibid.
\textsuperscript{31} Id., at 102.
\textsuperscript{32} Id., at 204.
\textsuperscript{33} Supra note 5 at 10.
environmental issues. The year 1972 also marks a watershed in the history of environmental management in India. In February 1972, the National Committee on Environment Planning and Coordination (NCEPC) was established, which was an apex advisory body in the matters relating to environment protection and growth.

To protect and improve the environment is a constitutional mandate and owing to the importance of our constitution it becomes important to analyse the constitutional commitment separately for the protection of the environment.

6.2 Environment Protection and The Constitutional Law of India

The Constitution of India came into force on the 26th January 1950. At its initial stage there was no direct and specific provision with regard to environmental pollution. There was, however, an indirect reference to the subject of the environment in Article 47 of the Constitution which reads as:

The State shall regard the raising of the level of nutrition and standard of living of its people and improvement of public health as among its primarily duties.

Of course, there is provision of "public health and sanitation" in entry 6 of the State list. The Constitution (forty-second Amendment) Act, 1976 has introduced several far reaching changes in the fundamental law of the country by inserting and emitting provisions in its different articles to make it adaptable to changing situations. In the

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34 Supra note 1 at 205.
35 Supra note 2 at 140.
light of Stockholm Declaration on Human Environment, 1972, India by above amendment added new provisions.\[36\]

6.2.1 Fundamental Duties

The Constitution (Forty-Second) Amendment Act, 1976, added a new Part IV-A dealing with “Fundamental Duties” in the Constitution of India... Article 51-A (8) specifically deals with the fundamental duty with respect to environment. It provides:

It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.

Article 51(j) further provides:

It shall be the duty of the every citizen of India to strive towards excellence in all spheres of individual and collective activity, so that the nation constantly rises to higher levels of endeavour and achievements.\[37\]

6.2.2 Directive Principles of State Policy

The Constitution (42nd Amendment) Act, 1976 again added a new directive principle in Article 48-A dealing specifically with protection and improvement of environment. It provides:


The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.

Article 47 of the Constitution is one of the directive principles of State policy and it provides that State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties. The improvement of public health will also include the protection and improvement of environment without which public health cannot be assured.38

6.2.3 Legislative Powers

Part XI of the Constitution governs the division of legislative and administrative authority between the centre and the states. Article 246 divides the subject areas for legislation into three lists, viz., union list, state list and concurrent list.39 The Constitution of India confers wide legislative powers on the Parliament and the State Legislatures for providing law relating to the environmental protection. Parliament can make law with respect to matters contained in the Union List of the Seventh Schedule and State Legislatures with respect to the matters contained in State List of the Constitution. Parliament and State Legislature of the State are competent to make laws with respect to any of the matters contained in the concurrent list of the Seventh Schedule [Article 246]. Generally speaking, Article 246 of the Constitution of India makes Parliamentary legislation on matters in the concurrent list paramount. Parliament has also the power to make laws

38 Id., at 48.
with respect to any matter for any part of the territory of India not included in a State, notwithstanding that such matter is enumerated in a State List [Article 246]. Residuary powers of legislation are also vested in Parliament.40

The concurrent list enumerates the subject on which both the Union and the State legislatures have concurrent jurisdiction, but in the case of conflict between the Centre and the State law, the former would follow (Article 254)... Article 248 gives the centre residual power to legislate on any subject not covered in the three lists. Article 249 states that the centre can legislate in the national interest on any subject in the state list provided it can obtain a two-third majority in the Rajya Sabha. Article 250 empowers the Parliament to legislate with respect to any matter in the State List if the proclamation of emergency is in operation.41

Article 252 states that the centre can only pass laws on state subjects if two or more state legislatures consent to such legislation. Article 253 empowers the parliament “to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or any decision made to any international conference, association or other body”.42

These constitutional provisions in India give a dominant role of central government on matter relating to environment protection.

6.2.4 Fundamental Rights

Principle 1 of the Stockholm Declaration finds reflection in Articles 14, 19 and 21 of the Constitution of India43 dealing with the

40 Supra note 5 at 21.
41 Ibid.
42 Ibid.
43 Principle 1 of the Stockholm Declaration provided that man has a fundamental right to freedom, equality and adequate conditions of life, in an environment of quality that
right to equality, freedom of speech and expression and right to life and personal liberty respectively.44

6.2.4.1 The Right to a Decent Environment

It may be appreciated that Article 21 of the Constitution, which occurs in Part III entitle “Fundamental Rights”, guarantees to all persons the right to life and personal liberty by prohibiting their deprivation except according to procedure established by law. The rights to life and personal liberty embodied in Article 21 have been transformed into positive rights by an active judicial interpretation.45 Until the advent of Maneka Gandhi v. Union of India,46 on the constitutional scene all the fundamental rights guaranteed in Part III of the Constitution were considered to be negative in nature imposing only negative obligation on the state which inhibited it from interfering with the enjoyment of these rights. But, in Maneka Gandhi the Supreme Court for the first time transformed it into a positive right imposing an affirmative duty on the State.47 The post-Maneka era has witnessed an unprecedented judicial activism in the country elevating Article 21 to the position of “a brooding omnipresence” and converting it into a “sanctuary of human values”...With the new content given to the right to life in Article 21 of the Constitution, it is impossible and inappropriate to read the right to a hygienic

permits a life of dignity and well-being, and bears a solemn responsibility to protect and improve the environment for present and future generations.

44 Supra note 37 at 51.
47 Supra note 45 at 189.
environment into that right, for it will be impossible to live with human dignity without a clean and healthy environment.\textsuperscript{48}

The induction to a right to a healthy environment into the right to life would in fact transform the non-justiciable, imperfect constitutional duty imposed on the state under Article 48A into a justiciable, perfect duty obligating the state to take affirmative steps not only to protect the natural environment from possible pollution but also to improve it. This is because the right to life with its expansive reach has become an effective positive right to compel the state to take affirmative steps to protect and improve the environment. This affirmative duty is additional to, and independent of, the state’s imperfect, positive duty envisaged under Article 48A of the Constitution.\textsuperscript{49}

Article 21 is the heart of fundamental rights and has received expanded meaning from time to time and there is no justification as why right to live in a healthy environment, can’t be interpreted in it. For healthy existence and preservation of essential ingredients of life, stable ecological balance is required. Article 21 guarantees a fundamental right to life – a life of dignity, to be lived in a proper environment, free of danger of disease and infection. It is an established fact that there exists a close link between life and environment. The talk of fundamental rights and, in particular, right to life would become meaningless if there is no healthy environment. The judicial grammar of interpretation has made “right to live in a healthy environment” as the sanctum sanctorum of Human Rights.\textsuperscript{50}

\textbf{6.2.4.2 Right to Livelihood}

\begin{itemize}
\item \textsuperscript{48} \textit{Id.}, at 190.
\item \textsuperscript{49} \textit{Ibid}.
\item \textsuperscript{50} \textit{Supra note} 37 at 52.
\end{itemize}
The judicial grammar of interpretation has further broadened the scope and ambit of Article 21 and now “right to life” includes the “right to livelihood”... This broad interpretation of right to life is very helpful in checking the governmental action which has an environmental impact that threatens the poor people of their livelihood by dislocating them from the places of living or otherwise depriving them of their livelihood. In the last few years, people have been protesting against the construction of large dams as they generally displace thousands of people who are often tribal and forest dwellers and thus deprive them of their livelihood.51

In *Oliga Tellis v. Bombay Municipal Corporation,*52 the Court held:

If the right to livelihood is not treated as a part of the constitutional right to life, the easiest way of depriving the person of his right to life would be to deprive him of his means to livelihood to the point of abrogation. Such deprivation would not only denude the life of its effective content and meaningfulness but it would make life impossible to live.53

The Court further held:

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51 For example, one of the arguments against the Tehri Dam Project was that the Dam will submerge Tehri town and 23 villages in the vicinity and 72 other villages will be partially submerged. It was expected that about 85,600 persons will be displaced because of the dam. *Id.* at 61.

52 AIR 1986 SC 180.

53 Cited in *supra* note 37 at 62.
The State may not by affirmative action, be compelled to provide adequate means of livelihood or work to the citizens. But, any person, who is deprived of his right to livelihood except according to just and fair procedure establish by law, can challenge the deprivation as offending the right to life conferred by Article 21.54

6.2.4.3 Articles 14, 19(1) (a) and 19(1)(g)

Likewise Articles 14, 19 dealing with equality and freedom of speech and expression plays an important role in safeguarding the environmental interest of people.

6.2.5 Public Interest Litigation and Environment Protection

Until quite recently the paradise of justice was the monopoly of rich who could afford it. This class oriented common law justice system is now giving way to the new pass-oriented jurisprudence. Access to justice through ‘class action’, ‘public interest litigation’ and representation proceedings is the present constitutional jurisprudence, Krishna Iyer J. declared.55

In the recent past, public interest litigation has played a unique role in the fields like – protection of fundamental rights, human rights... environmental protection etc.56 In a public interest case, the subject-matter of the litigation is typically a grievance against the violation of basic human rights of the poor and the helpless or about the content or conduct of government policy... Most environmental
actions in India fall within this class. Traditional rule of *locus standi* is that only a person whose on right was in jeopardy ("the person aggrieved") was entitled to seek a remedy. The Supreme Court, in recent times has permitted some modifications in this traditional rule of standing... The Supreme Court expanded standing to enable a citizen to challenge such government actions in the public interest, though the citizen had not suffered any individualised harm. PIL has been progressively used to invoke the original jurisdiction of the Supreme Court and the High Court under Articles 32 and 226 of the Constitution in providing protection for the environment. New vistas and dimensions have been given to the substantive rights to health and clean and unpolluted environment by the Courts, by opening a path of processual justice, without enslaving themselves to procedural compulsions. In *Tarun Bhagat v. Union of India*, the Supreme Court, while upholding the contention of a social action group challenging the legality of granting a mining licence in the protected area of reserved forest, observed:

>This litigation should not be treated as the usual adversarial litigation. Petitioners are acting in aid of a purpose high on national agenda. Petitioners concern for the environment, ecology and the wild life should be shared by the government.

The observation of the Court is important as it highlights the rationale of PIL in environmental issues. It is the duty of the state and

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60 Cited in *supra* note 58 at 65.
the citizen to protect the environment – a duty imposed by the Directive Principles (Article 48A) and Fundamental Duties (Article 51A(g)), introduced by the Forty-Second Amendment of the Constitution. Any person who raises an environmental issue, whether individual, group or institution, is equally concerned with the problem. Such litigation can't be considered as an adversarial confrontation with the state.

The discussion on India’s environmental law will be incomplete without highlighting the role and contribution of Indian judiciary and will be next to being taken.

6.3 Role of Judiciary in Addressing the Environmental Problems

The judiciary has played an active role in environment protection by interpreting the various constitutional and legislative provisions in the interest of environment and upholding the citizens’ right to clean and healthy environment... The growth of environmental law in India has been the result of joint effort of the legislature, administration and the judiciary. In the history of independent India, perhaps the environment and ecology are good examples of an active judiciary involved deeply in restoring and saving our natural capital. The judiciary has been one of the most important instruments of environmental activism and rulings. Where the legislature or executive failed, the judiciary delivered. Its decisions and judgements were mostly concerned with local problems of pollution, human security and deforestation. It delivered many landmark judgements. The

61 Ibid.
62 Id., at 66.
63 Supra note 2 at 141, 143.
Indian Courts have embraced judicial activism in developing environmental jurisprudence. The right to pollution-free environment is treated as a fundamental right. The concept of standing has been expanded so as to tailor environmental cases to fit into the framework of public interest litigation.65

It is observed that judiciary in India has been taking cognizance of the environmental pollution from the year 1980. It is not that, prior to 1980, the judiciary neglected the environmental pollution cases, but the gravity of pollution problem was not considered to be serious. The concerted thought and action for keeping the environment free from pollution was realised soon after the Stockholm Conference.66 Whatever it may be, the judiciary in India, ever since the later part of the 19th century and the beginning of 20th century, has inhabitants, but not as environmental pollution cases, rather as cases under Sections 133 and 137 of the CrPC, 1898.67 The judicial decisions over the past two decades bring out the judiciary’s attempts to strike a balance between environment and development.68 The judiciary in India has not only applied the various legislative provisions but also the general principles of international environmental law such as polluter pays principle, precautionary principle, inter-generational equity, to strike a balance between environment and development, and to apply the concept of sustainable development. Some examples of judicial intervention to save the environment from degradation are taken below.

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66 Supra note 36 at 71.
67 Ibid.
68 Supra note 2 at 142.
Judicial governance in India has delivered number of landmarking judgements be it Ganga Pollution Cases\textsuperscript{69} or case relating to air pollution and applied various international environmental principles in their judgements, such as the "precautionary principle" "polluter pays principle" in cases like \textit{M.C. Mehta v. Union of India (Badkal and Surajkund Lakes Case)},\textsuperscript{70} \textit{A.P. Pollution Control Board v. Prof. M.V. Nayudu,}\textsuperscript{71} and \textit{Vellore Citizens Welfare Forum v. UOI,}\textsuperscript{72} \textit{M.C. Mehta v. Union of India (Oleum gas leakage gas)}\textsuperscript{73} and many more.

In \textit{A.P. Pollution Control Board} case the Supreme Court observed that environmental cases involved correctness of technological and scientific opinions regarding the alternative technology or modification suggested by pollution control board, while scientific opinions are themselves uncertain in nature (subject to perpetual revision). The difficulty faced by the Courts in dealing with such problems is a global phenomenon.

According to Lord Woolf,

\begin{quote}
While environmental law is now a clearly a permanent feature of the legal scene, it still lack clear boundaries. It might be preferable that boundaries are left to be established by the judicial decisions as the law developed.\textsuperscript{74}
\end{quote}

\textsuperscript{70} (1997) 3 SCC 715.
\textsuperscript{71} (1999) 2 SCC 718.
\textsuperscript{72} AIR 1996 S.C. 667.
\textsuperscript{73} AIR 1987 SC 965.
\textsuperscript{74} \textit{Supra} note 57 at 174.
The Supreme Court observed that it is the uncertainty of science in the environmental context that has led international conferences to formulate new legal theories and rules of evidence. The precautionary principle, Special Burden of Proof in environmental cases are the part of this.

Accordingly, in Vellore Citizens Welfare Forum case, the Court expressed the view that “the precautionary principle” and “PPP” are essential features of sustainable development and that they have been accepted as part of law of land. The Court had no hesitation in holding that the precautionary principle and PPP are part of the environmental law of the country. The Court also observed that even otherwise, the above said principles are accepted as part of the customary international law and hence there should be no difficulty in accepting them as part of our domestic law.

The Supreme Court introduced a new “no fault” liability standard (‘absolute liability’) for industries engaged in hazardous activities.

Chief Justice Bhagwati said: “we have to evolve new principles and lay down new norms which would adequately deal with the new problems which arise in a highly industrialized economy”. The Shriram Food and Fertilizers case is replete with a number of suggestion to the central government for controlling environmental pollution. Bhagwati CJ (as he was then) advised the government to set up an ecological science research group consisting of independent professionally trained experts in different branches of science and technology. This group could serve as an information bank for the

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75 Ibid.
76 Supra note 37 at 123-124.
77 Cited in supra note 57 at 131.
Court and the government departments. Since cases involving issues of environmental pollution, ecological disturbance or destruction and conflict over natural resources were increasingly coming up for adjudication and these cases involved assessment and evaluation of scientific and technical data, there was also an urgent need to set up environmental Courts on regional basis, with the professional judges and experts drawn from ecological science research group.\textsuperscript{78} Another dimension of this case was that the judgement was delivered by the Chief Justice Bhagwati on the eve of his retirement...It opened new horizons in the development of environmental law and also administration of environmental justice.\textsuperscript{79}

Now, next India’s Climate Change Policy & Law will be analysed.

6.4 Climate Change Laws and Policy Framework in India

6.4.1 India’s actions on Climate Change

India being vulnerable to adverse effects of climate change is conscious of its global responsibilities towards climate change as also the needs to minimize adverse effects of climate change on its large population... Even with 8-9 per cent GDP growth every year for the next decade or two, India’s per capita emissions is likely to do well below developed country averages. India’s energy intensity of production has been falling with improvements in energy efficiency, autonomous technological changes and economical use of energy... India has already stated that India will never allow its per capita emissions to exceed that of developed countries. Accordingly, India has announced that, it will endeavour to reduce 20 to 25 per cent of its emissions.

\textsuperscript{78} Id., at 982.

\textsuperscript{79} Supra note 36 at 79.
emission by 2020 in comparison to 2005 level.\textsuperscript{80} Developing countries feel that their economic progress will be curtailed by the extant stock of GHGs, most of which have been emitted by the industrialised countries and therefore that the costs of climate-change mitigation should squarely be borne by the latter...The argument is even more compelling when we appreciate some specific Indian problems, for example hugely adequate access to electricity for basic lighting, and dependence on non-traditional fuels for cooking.\textsuperscript{81} Some of the facts of energy in India are:

- The Indian power sector has about 160,000 MW of installed capacity, but its per capita electricity consumption is still among the lowest globally—for example, about a third of China's;
- 44 per cent of the population is without access to electricity;
- Nationwide shortage of electricity has been steadily rising; during 2008/9 (April-January) the average shortfall between demand and supply was 11 per cent, and the peak shortage in January was 12.3 per cent;
- Over 70 per cent of the energy requirement of households (mainly for cooking) is satisfied by firewood and dung cake, which result in eye infections and respiratory problems linked with indoor pollution; the large health

\textsuperscript{80} R.R. Rashmi and S. Satapathy, “Facing the Challenge”, Yojana, 5-10 at 8 (April 2010).
externality may warrant a household subsidy for fuel
stoves and LPG and kerosene.\textsuperscript{82}

- India consumes 16 million Btu of primary energy per
capita/year compared to 56 million Btu in China, 335
million Btu in the USA, and a world average of 72
million Btu;

- CO\textsubscript{2} intensity in tonnes/million 2000 US$ GDP is 287 for
India, 544 for the USA, 693 for China, and 383 for the
OECD Europe. Over the past decade, India’s energy
intensity has been declining by 4-5 per cent/year;

- India imposes significant energy taxes.\textsuperscript{83}

In recent years, India’s energy consumption has been increasing
at one of the fastest rates in the world owing to population growth and
economic development. India ranks sixth in the world in terms of
energy and demand. Its economy is projected to grow seven to eight
percent over the next two decades, spurring a substantial increase in
demand for oil to fuel land, sea and air transportation.\textsuperscript{84} India faces
formidable challenges in meeting her energy needs and in providing
adequate energy of desired quality in various forms in a sustainable
manner and at competitive prices.\textsuperscript{85} Even though India is not required
to contain its GHG emissions, as a signatory to the UNFCCC and a

\textsuperscript{82} Black carbon and organic carbon emissions from kerosene and LPG stoves have been
estimated to be lower than from those from biofuel stoves by a factor of 3-50;
combustion of biofuels is a potentially significant source of atmospheric black carbon
and associated climatic effects in South Asia.

\textsuperscript{83} Supra note 81 at 182.

\textsuperscript{84} “Report on Energy Security”, \textit{Geography and You, Vol. 9, Issue 57, 54-58}
(November-December, 2009).

\textsuperscript{85} Sanjib Pohit, “Energy, Emissions and India”, \textit{Geography and You, Vol. 9, Issue 57, 8-11}
at 9 (November-December 2009).
country which has acceded to Kyoto Protocol, India has been very active in proposing Clean Development Mechanism (CDM) projects. Moreover, Indian government has been actively following a number of initiatives that could significantly reduce the greenhouse gas intensity of the economy. To be specific they are:

- Energy efficiency in all sectors;
- Emphasis on mass transport;
- Active policy on renewable energy including bio-fuels and fuel plantations;
- Accelerated development of nuclear and hydro-electricity;
- Technology mission for clean coal technologies;
- Focused research and development on many climate friendly technologies;
- Energy efficiency rating of electrical instruments;
- Green rating of buildings.\(^{86}\)

However, the international debate on climate change wants India to make a commitment to GHG cut.

While engaging constructively with the international community on the issue, India has pursued a strong domestic agenda for addressing climate change.\(^{87}\) India has extensive programmes on several aspects of global environmental change. These include... greenhouse molecule monitoring, air-sea interactions, effect of

\(^{86}\) Id., at 11.
\(^{87}\) Supra note 80 at 8.
increased UV-13 and climatic changes on ecosystems... Mesosphere-stratosphere-troposphere radar (MST Radar) is being installed near Tirupati that will continuously monitor the state of atmosphere from near the ground to about 90 km (with a gap between 25 to 60 km). The Indian middle Atmosphere programme has already provided substantial information on the middle atmosphere over India... Development of CFC substitutes are among the extensive programmes India is contemplating to take up to slow down global climate change. The National Environmental Engineering Research Institute (NEERI), Nagpur has conducted various monitoring programmes. However, the monitoring facilities are inadequate in India.

India recognizes that a strategy for addressing climate change has to be based on the strategy for sustainable development. This is reflected in the major programmes addressing climate variability. Current government expenditure in India on adaptation to climate variability exceeds 2.6 per cent of the GDP, with agriculture, water resources, health and sanitation, forest, coastal zone infrastructure and extreme events, being specific areas of concern and action.

6.4.2 India's International Obligations

6.4.2.1 India's Obligation under Climate Change Convention and Kyoto Protocol

India signed the UNFCCC on 10th June 1992 and ratified the same on 1st November 1993. India being a non-Annex-I and Group-III country under the present international climate change framework, there is no obligation upon India for the purpose of reducing the
emission. The Ministry of Environment and Forests, act as a Nodal agency for the purpose of climate change issues in India. India can’t be said to be pro-active in the climate change negotiations and have never assumed leadership position in the COP, except for having hosted the COP-8 at New Delhi. This may be due to developing country status of India. Further, India’s position has always been of adopting a defensive strategy on the basis of ‘historical responsibility’ and ‘common but differentiate responsibilities’ principles.\(^9\) However, India in Cancun played a pro-active role and emerged as a confident deal-maker.

Over the last decade, the entire dynamics of international climate negotiations has slowly changed as the present situation of greenhouse gas emission by emerging economies such as India and China has increased drastically. Statistics have played the trick of putting India in bad light with the reports stating that greenhouse gas emission by India increased around 51 per cent during the period between 1900-2000 and International Energy Agency stating that India would be third largest emitter by 2015.\(^9\) This changing perception that emerging economies like India is no more in the league of non-sustainable emitters of greenhouse gas has led to pressure tactics by the international community upon India and other emerging economies to curb their emission.

In the recent international negotiations conducted under the UNFCCC, the industrialized countries have called upon the developing countries... to follow a low carbon development path and deviate in

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terms of GHG emission from business as usual scenario. It has been suggested that the developing countries should place their domestic mitigation actions at the same level of international review as the mitigation commitments of developed countries. India’s approach to the negotiations is fully anchored in the UNFCCC and the Kyoto Protocol. While India is willing to accept monitoring, reporting and verification (MRV) as per agreed procedures for those actions that are supported by the international community in terms of finance and technology through agreed channels, its voluntary actions financed from its own domestic resources can’t be subjected to international review.

As a part of its international obligations under the UNFCCC, India prepares periodically the National Communication (NATCOM) that gives an inventory of the greenhouse gases (GHG) emissions in India, and assesses the vulnerability and impacts and make appropriate recommendations regarding social, economic and technological measures to address climate change. 131 research teams collaborated to prepare India’s first NATCOM and presented in 2004 and NATCOM-II which put together an even more detailed assessment of national GHG inventories and of the vulnerabilities faced by the key sectors in India presented to the UNFCCC in 2011.

6.4.3 Institutional Mechanisms for Addressing Climate Change in India

Government of India has set up an elaborate institutional mechanism to consider and address issues relating to climate change.
A Council chaired by Prime Minister called Prime Minister’s Council on Climate Change was constituted in June 2007 to coordinate national action for assessment, adaptation and mitigation of climate change. The Council provides the overall guidance to climate change related actions taken by various Ministries in the Government and other agencies. Ministry of Environment and Forests is the national focal point for UNFCCC and coordinates various activities relating to the NAPCC and other climate change related policies and actions.97

An expert committee set up under the chairmanship of the Principal Scientific Adviser to the Government of India has studied (2008) the impact of anthropogenic climate change on India and has come out with its first set of findings and the research agenda that the ministries need to follow and implement in order to address India’s vulnerability to anthropogenic climate change impacts.

6.4.4 Legislative and Regulatory Measures and Policy Instruments in India Relating to Climate Change

Climate change presents many challenges at legal level. At present, India does not have a separate statue on climate change. There are certain legal, regulatory and policy frameworks which can be used in the mitigation efforts of climate change. The Energy Conservation Act, 2001, enacted to promote the efficient use of energy and the National Tariff Policy, 2006, mandating compulsory purchase of certain percentage of renewable energy are important tools in the mitigation efforts. National Action Plan on Climate Change is the major policy document that gives direction to mitigation and adaptation efforts in India.98

97 Ibid.
98 Shiju MV, “Indian Environmental Law and Climate Change”, Yojana, 18-20 at 19 (April, 2010).
The present legislative and regulatory framework having implications upon the climate change would consist of the following legislations: Environment (Protection) Act, 1986; the Air (Prevention and Control of Pollution) Act, 1981; the Indian Forest Act, 1927; the Forest (Conservation) Act, 1980; and the legislation related to energy, which consists of Energy Conservation Act, 2001.99

6.4.4.1 Environment Legislations and Policy Measures

The Air (Prevention and Control of Pollution) Act, 1981, lays down the institutional and regulatory framework which would restrict the emission of gases from automobiles and that of industries.100 This restriction of emission enunciated under Sections 20 and 22 of the Act would have an impact on the greenhouse gas emission reduction as transportations or vehicular pollutions and industrial emissions are two important sectors that have substantial contribution in increasing the concentration of greenhouse gases.

The Motor Vehicles Act, 1988101 can also play an important role in reduction of emissions from automobiles as central government is provided with the power to make rules for regulating emissions. Under the Act, the Central government may make rules regulating the construction, equipment and maintenance of motor vehicles and trailers with respect to...“standards of emission of air pollutions.”102

Provided that any rules relating to the matters dealing with the protection of environment, so far as may be made after consultation

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100 Section 20 and 22 of the Air (Prevention and Control of Pollution) Act, 1981.
102 Section 110(1) (m) of the Motor Vehicle Act, 1988.
with the Ministry of the Government of India dealing with environment.

Pursuant to this power the emission norms such as Euro I, Euro II and Euro III in the automobile industry have been introduced. Further regarding certain industries there are also sectoral policies in existence, such as the National Steel Policy, 2005, emphasis on the importance of reduction emissions as a matter of environmental concerns.¹⁰³

The Environment Protection Act, 1986 empowers the central government to take measures to protect and improve the environment. Such measures also include “laying down standards for emission or discharge of environmental pollutants from various sources whatsoever...”¹⁰⁴

However, under the provision different standards for emission or discharge may be laid down under this clause from different sources having regard to the quality or composition of the emissions or discharge of the environmental pollutants from such sources.¹⁰⁵

The National Environmental Policy, 2006 clearly acknowledges that the anthropogenic climate change, significant responsibility for which clearly does not lie with India or other developing countries, may, on the other hand, have likely adverse impacts on India’s precipitation patterns, ecosystems, agricultural potential, forests, water resources, coastal and marine resources, besides increase in range of several disease vectors.¹⁰⁶

¹⁰³ Clause 11 of National Steel Policy, 2005.
¹⁰⁴ Section 3(2) (iv).
¹⁰⁵ Ibid.
Accordingly, the National Environment Policy mentions the following essential elements of India’s response to climate change:

- Adherence to the principle of common but differentiated responsibilities and respective capabilities of different countries in respect of both mitigation of GHGs, and adaptation measures;

- Reliance on multilateral approaches as opposed to bilateral or plurilateral unilateral measures;

- Equal per capita entitlements of global environmental resources to all countries;

- Over-riding priority of the right to development;

- Identify key vulnerabilities of India to climate change, in particular impacts on water resources, forests, coastal areas, agriculture and health;

- Assess the need for adaptation for future climate change, and the scope of incorporation of these in relevant programmes, including watershed management, coastal zone planning and regulation, forestry management, agricultural technologies and practices, and health programmes;

- Encourage Indian industry to participate in the Clean Development Mechanism (CDM) through capacity building for identifying and preparing CDM projects, including the financial sector;

- Participate in voluntary partnerships with other countries both developed and developing, to address the challenge.
of sustainable development and climate change, consistent with the provisions of the UNFCCC.\textsuperscript{107}

The Indian Forest Act, 1927, the Forest (Conservation) Act, 1980 which contains provisions for the protection of existing forest areas and the National Forest Policy, 1988, which aims at afforestation and coverage of the one-third of the land area of India under forest or tree cover, is important in the context of the Reducing Emissions from Deforestation and forest Degradation (REDD) and REDD plus approach emphasising on conservation, sustainable management of forests, increase in forest cover.

\textbf{6.4.4.2 Energy Related Legislations and Policy Measures}

The Energy Conservation Act, 2001 is a significant legislation in India with respect to energy sector and has influenced upon climate change also. The Act provides a comprehensive legislation for the efficient use of energy and its conservation.\textsuperscript{108}

The objective of the Act includes:

Promoting efficient use of energy and its conservation has been engaging the attention of the Government of India for quite some time. The increasing preference for commercial energy has led to the considerable spurt in the demand for electricity and fossil fuels. There is enormous potential for reducing energy consumption by adopting energy efficiency measures in various sectors of our economy. Energy efficiency will not only reduce the need

\textsuperscript{107} Id., at 43.
\textsuperscript{108} Energy Conservation Act, Section 3.
to create new capacity requiring mobilisation of huge resources but will also result in substantial environmental benefits in terms of reduced greenhouse gas emissions.

The legislation also empowers the central government to provide for energy consumption standards for and also establishes the Bureau of Energy Efficiency (BEE) to facilitate and enforce efficient use of energy and its conservation.\(^{109}\) The Central government may, by notification, in consultation with BEE specify norms for process and energy consumption standards for any equipment, appliance which consumes, generates, transmit or supplies, energy;\(^{110}\)

- after the list of Energy Intensive Industries specified in the Schedule;\(^{111}\)

- establish and prescribe such energy consumption norms and standards for designated consumers as it may consider necessary;\(^{112}\)

- prescribe energy conservation building codes for efficient use of energy and its conservation in the building or building complex;\(^{113}\)

- amend the energy conservation building codes to suit the regional and local climatic conditions;\(^{114}\)

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\(^{109}\) Energy Conservation Act, 2001, Sections 3 and 14

\(^{110}\) Ibid, Section 14(a).

\(^{111}\) Ibid, Section 14(f).

\(^{112}\) Ibid, Section 14(g).

\(^{113}\) Ibid, Section 14(p).

\(^{114}\) Ibid, Section 14(q).
Provided the power under clause (q) will be exercised shall be exercised in consultation with the concerned State.

 Further, the Integrated Energy Policy proposed by the planning commission, has emphasized upon stipulation of tax on non-renewable fuels that cause environmental damage and give subsidies to clean energy. The newly adopted National Biofuel Policy aims at mainstreaming of biofuels to substitute petrol and diesel for transport contribution to energy security, climate change mitigation leading to sustainable environmental development.

 In addition to these, many concepts in Indian environmental jurisprudence can be used to address the concerns raised by climate change. Precautionary Principle/Approach is the bedrock on which the UNFCCC and Kyoto Protocol rests. A plethora of Indian judgements has categorically stated that Precautionary Principle is a part of Indian Law. In the specific Indian context, the precautionary principle imposes additional responsibilities on the governments. The environmental measures carried out must anticipate, prevent and attack the causes of environmental degradation.\textsuperscript{115}

 Polluter Pays Principle is another major rule which can play a central role in emerging climate change jurisprudence in India...The fact that Article 21 of the Indian Constitution which guarantees right to life has been used as a legal foundation of these principles means that any legal or executive measure can’t circumvent them.\textsuperscript{116}

 6.5 National Action Plan of India on Climate Change (NAPCC)

 As mentioned before, India is yet to come up with comprehensive legislation dealing with climate change. However, in

\textsuperscript{115} Supra note 98 at 19.

\textsuperscript{116} Ibid.
2008 India has adopted a National Action Plan on Climate Change (NAPCC) with objective of shifting to a less-carbon intensive development pattern and renewable sources of energy and thus to reach high energy efficiency. Thus, it was no coincidence that Prime Minister Manmohan Singh launched the National Action Plan on Climate Change (NAPCC), outlining his government’s domestic response to the climate crisis in June 2008 – barely a week before the meeting of the Group of Eight (G-8) industrialized countries in Japan, to which India was invited as an observer.\textsuperscript{117} This was Singh’s way of warding off and coping with the growing pressure on India from the developed countries to take some ‘positive’ unilateral climate actions as a ‘responsible’ emerging power. The National Action Plan advocates a strategy that promotes, firstly, the adaptation to Climate Change and secondly, further enhancement of the ecological sustainability of the India’s development path. NAPCC stresses that maintaining a high growth rate is essential for increasing living standards of the vast majority of the people of India and reducing their vulnerability of the impacts of the climate change. Eight National missions are:\textsuperscript{118}

- National Solar Mission;
- National Mission on Enhanced Energy Efficiency;
- National Mission on Sustainable Habitat;
- National Water Mission;
- National Mission for Sustaining the Himalayan Ecosystem;

\textsuperscript{118} Supra note 80 at 9.
• National Mission for the Green India;
• National Mission for Sustainable Agriculture; and
• National Mission for Strategic Knowledge for Climate Change.

Besides the eight Missions, the NAPCC also outlines 24 initiatives aimed at promoting technologies and actions in the sectors pertaining to energy generation, transport, renewable, disaster management and capacity building that will have substantial benefits in terms of addressing climate change, when integrated with the development plans of ministers.119

The National Missions are to be institutionalized by the respective Ministries. The Prime Minister’s Council on Climate Change, set up in June, 2007 monitors the preparation of and approves the national missions, while the Ministry of Environment & Forests coordinates the implementation of the Action Plan and other climate change related actions in India. Documents in respect of the national missions as prepared by the nodal Ministries are at various stages of adoption and approval. It is notable that India’s Five Year plans outline a strategy for sustainable growth resulting in low carbon sustainable development. 11th Five Year Plan includes an indicative target of increasing energy efficiency by 20 per cent by 2016-17. The National Mission on Enhanced Energy Efficiency implemented by the Ministry of Power through the Bureau of Energy Efficiency seeks to pursue this goal.120

119 Ibid.
120 Ibid.
NAPCC will guide India's further actions in regard to low carbon growth strategy. Based on the exercises for Mid-Term Appraisal in the 11th Five year Plan that indicates that the emission intensity has declined by 17.6 per cent between 1990 and 2005, the Planning Commission has concluded that a 20 to 25 per cent reduction in emission intensity between 2005 and 2020 is possible. This will require that necessary actions in specific sectors are undertaken to reduce emission intensity and corresponding emission reduction outcomes with necessary provisions of financial and technological resources. These could include specific performance targets in industry, energy, transport, agriculture, buildings and forestry for the year 2020 and 2030. These could be institutionalised through either legislative or executive action under the NAPCC and the Five Year Plan documents. Actions may also be taken to enhance such domestic actions in line with specific domestic targets as outlined in 11th and subsequent five-year plans with domestic and international resources as available.121

6.5.1 National Solar Mission

The objective of National Solar Mission is to establish India as a global leader in solar energy, by creating the policy conditions for its diffusion across the country as quickly as possible.122 The Mission will adopt a three phase approach, spanning the remaining period of the 11th Plan and first year of the 12th Plan (up to 2012-2013) as Phase-1, the remaining four years of the 12th Plan (2013-17) as Phase-II and 13th Plan (2017-22) as Phase 3. At the end of each plan, and mid-term during the 12th and 13th plans, there will be evaluation of

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121 Ibid.
progress, review of capacity and targets for subsequent phases, based on emerging cost and technology trends, both domestic and global. This Mission will also launch a major R & D programme in Solar Energy and to support the R & D strategy, the mission also proposes the creation of the following:

- Setting up a high level research council comprising of eminent scientists, technical experts and representative from academic and research institutions, industry, government and civil society to guide the overall technology development strategy;

- A National Centre of Excellence (NCE) shall be established to implement the technology development plan formulated by the Research Council and serve as its Secretariat. It will coordinate the work of various R&D centres, validate research outcomes and serve as an apex centre for testing and certification and for developing standards and specifications for the solar industry.124

6.5.1.1 Financing the Mission Activities

The fund requirements for the Mission would be met from the following sources or combinations:

- Budgetary support for the activities under the National Solar Mission established under the MNRE;

- International Funds under the UNFCCC framework, which would enable upscaling of mission targets.125

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123 Id., at 3.
124 Id., at 11.
125 Id., at 13.
6.5.1.2 Institutional Arrangements for Implementing the Mission

The Mission will be implemented by an autonomous Solar Energy Authority and or an autonomous and enabled Solar Mission, embedded within the existing structure of the Ministry of New and Renewable Energy. The Authority/Mission Secretariat will be responsible for monitoring technology developments, review and adjust incentives, manage funding requirements and execute pilot projects. The Mission will report to the Prime Minister's Council on Climate Change on status of its programme.\textsuperscript{126}

6.5.2 National Mission on Enhanced Energy Efficiency

The Prime Minister’s Council on Climate Change approved “in principle” the National Mission on Enhanced Energy Efficiency. The mission will enable about Rs. 75,000 crore worth transaction in energy efficiency. In doing so, it will, by 2015 help save about five per cent of annual energy consumption...The objective of the mission includes a beneficial impact on India’s emission trajectory.\textsuperscript{127}

The most innovative and challenging new initiative to be introduced under the mission is the “Perform, Achieve and Trade” (PAT) mechanism which will assign energy efficiency improvements targets to the country’s most energy intensive industrial units, with the provision of allowing them to retain any energy efficiency improvements in excess of their targets in the form of Energy Saving Certificates, called ESCerts. Units will also be allowed to use purchase ESCerts to meet their targets.\textsuperscript{128}

\textsuperscript{126} \textit{Id.}, at 14.


\textsuperscript{128} Ibid.
6.5.3 National Water Mission

The main objective of the National Water Mission is "conservation of water, minimizing wastage and ensuring its more equitable distribution both across and within states through integrated water resources development and management". The five identified goals of the Mission are: comprehensive water data base in public domain and assessment of impact of climate change on water resource; promotion of citizen of state action for water conservation; argumentation and preservation; focussed attention to over-exploited areas; increasing water use efficiency by 20 per cent and promotion of basin level integrated water resource management.\textsuperscript{129} Some of the important features of the mission are:

- Review of National Water Policy;
- Research and studies on all aspects related to impact of climate change on water resources including quality aspects of water resources;
- Expeditious implementation of water resources projects particularly the multipurpose projects with carry over storages;
- Promotion of traditional system of water conservation;
- Intensive programme for ground water recharge in over-exploited areas;
- Incentivize for recycling of water including waste water;

• Planning on the principle of integrated water resources development and management;

• Ensuring convergence among various water resources programmes; and

• Intensive capacity building and awareness programme including those for Panchayati Raj Institutions, urban local bodies and youths.

• Sensitization of elected representatives of over exploited area on dimensions of the problem and to orient investment under NREGA towards water conservation.130

6.5.4 National Mission for Sustainable habitat

The National Mission for Sustainable Habitat primarily deals with urban issues and will broadly cover the following aspects:

• Extension of the energy conservation building code – which addresses the design of new and large commercial buildings to optimize their energy demand;

• Better urban planning and model shift to public transport – make long term transport plans to facilitate the growth of medium and small cities in such a way that ensure efficient and convenient public transport;

• Recycling of material and urban waste management – a special areas of focus will be development of technology for producing power from waste.131

130 Ibid.
131 Available at: http://escindia.org/content/national-mission-on-sustainable-Habitat (accessed on August 17, 2012).
The National Mission will include a major R & D programme, focussing on bio-chemical conversion, waste water use, sewage utilization and recycling options wherever possible. The mission gives high priority to building conforming to the LEED (Leadership in Energy and Environmental Design) rating of green buildings, and the Indian Equivalent GRIHA (Green Rating of Integrated Habitat Assessment). The document proposes incentives, both ‘financial and symbolic’, and voluntary efficiency measures, rather than mandatory regulation to ban the use of certain materials and practices and encourage the use of others. It makes several useful suggestions, such as property tax rebates of 5 to 10 per cent for energy efficiency, preference for green components and technologies in government contract, use of energy-efficiency lighting, etc. But these do not add up to a plan of action.

6.5.5 National Mission for Sustaining the Himalayan Ecosystem

Primary objective of the mission is to develop in a time bound manner a sustainable National Capacity to continuously assess the health status of the Himalayan Ecosystem and enable policy bodies in their policy-formulation functions and assist states in the Indian Himalayan region with their implementation of actions selected for sustainable development. The Mission attempts to address some important issues concerning:

- Himalayan Glaciers and the associated hydrological consequences;
- Biodiversity Conservation and Protection;

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132 Supra note 117 at 151.
133 Id., at 152.
134 Executive Summary, National Mission for Sustaining the Himalayan Ecosystem under NAPCC, 2 (June, 2010).
- Wildlife Conservation and Protection;
- Traditional knowledge of societies and their livelihood;
- Planning for sustaining of the Himalayan Ecosystem.\textsuperscript{135}

The Mission would be monitored periodically, at least twice in a calendar year, by a High Powered Committee under the Chairmanship of the Honourable Minister for Science and Technology and Earth Sciences. The High Powered Committee will include among other representatives of Ministry of Environment and Forests, Ministries of Agriculture and Water Resources and of the Governments of Himalayan States. The Prime Minister’s Council on Climate Change would periodically review reports of the committee. The National Advisory Council for National Mission on Sustaining Himalayan Ecosystem would form the think tank and give inputs to the Monitoring Committee and evaluate the progress of work. The mechanism of input approvals and funding decisions will involve a Committee of Secretaries of the participating departments. A dedicated Mission Cell on Himalayan Ecosystem will be constituted for the purpose of coordination and reporting to the various committees and oversight groups. This cell will be responsible for coordination with nodal institutions coordinating thematic work elements and report to the Committee of Secretaries as well as submit periodic reports to the PMO. The mission demands also regional cooperation and policy implications. A close coordination with Ministry of External Affairs (MEA) and Ministry of Environment and Forests (MoEF) will be essential.

\textsuperscript{135} Ibid.
Fund requirements for the Mission would be met both through internal resources and a special fund created especially for NMSHE.\textsuperscript{136}

The Department of Science and Technology (DST) was asked to initiate further action on it. It sent the document to all the 12 Himalayan states, requiring them to comment on it and designate a nodal coordination point.\textsuperscript{137}

6.5.6 National Mission for the Green India

National Mission for a Green India (objectives include):

- Increased forest/tree cover on 5m ha of forest/non-forest lands and improved quality of forest cover on another 5 m ha (a total of 10 m ha);

- Improved ecosystem services including biodiversity, hydrological services and carbon sequestration as a result of treatment of 10 m ha;

- Increased forest-based livelihood income for 3 million forest dependent households; and

- Enhanced annual CO\textsubscript{2} sequestration of 50-60 million tonnes by the year 2020.\textsuperscript{138}

6.5.6.1 Mission Organisation

(a) National

\begin{small}
\textsuperscript{136} Id., at 48.
\textsuperscript{137} Supra note 117 at 154.
\textsuperscript{138} National Mission for A Green India Under the National Action Plan on Climate Change, Ministry of Environment and Forest, Government of India, 6 (February 22, 2011).
\end{small}
An autonomous society under Chair of MEF with an inclusive governing council; the mission to develop systems for higher degree of accountability

(b) State Level

Revamped State Forest Development Agency (SFDA)

(c) District Level

Revamped District FDA, linked to District Planning Committee

(d) Village Level

Gram Sabha and its Committees;

In VI schedule area the Village Councils and Traditional Village Institutions

(e) In Urban Areas

Ward level Committees/RWAs with support from Municipal organisations and the Forest Deptt.139

Unlike most other national missions, the green India Mission document was prepared after a series of seven public consultations across India in which more than 1,450 people took part. It also has a clear time-frame of 10 years, divided equally between a preparatory phase and an implementation phase. It has a budget estimate of Rs. 46,000 crores. A small portion (Rs 200 crore) will come from the National Clean Energy Fund, which is to be financed by levying a ‘clean energy cess’ on coal, at the rate of 50 per tonne.140 Much more funding is expected to come from REDD + carbon credits earned for

139 Ibid.
140 Supra note 117 at 157.
reafforestation programmes. The government has announced steps to prepare for REDD+ including setting up a technical group to develop methodologies and procedures to assess and monitor REDD+ actions, creation of the national REDD+ coordinating agency and forest carbon accounting.\textsuperscript{141}

6.5.7 National Mission on Sustainable Agriculture

This Mission pertains to a subject which concerns three-fifth of all livelihoods in India. Its goal include: to devise strategies to make Indian agriculture more resilient to climate change with the focus on improving productivity of rain-fed agriculture. This mission covers adaptation and mitigation in agriculture and animal husbandry. It rightly recognises that two-thirds of cultivated land in India is particularly vulnerable to climate change.\textsuperscript{142}

6.5.8 National Mission on Strategic Knowledge for Climate Change

The highlights of this mission are the proposed creation on ‘new (about five) dedicated centres within the existing institutional framework for building human capacities by instituting chair professorship on climate change and about 200 trained professionals’ (mostly PhD and post-doctoral researchers) in various areas; to achieve coordination between various S & T efforts and databases through a National Knowledge Network; and formation of ‘global technology watch groups’ to help technology selection and prioritisation.\textsuperscript{143}

\textsuperscript{141} Id., at 157.
\textsuperscript{142} Id., at 149.
\textsuperscript{143} Id., at 158.
The mission document’s nodal agency DST sees the mission as servicing the R&D requirements of the other Missions while enhancing domestic climate science capabilities. The Mission has a substantial budget of Rs. 2.200 crores which is mainly accounted for the creation of new institutions with high establishment costs.\footnote{Ibid.}

6.5.9 A Critique of India’s National Action Plan on Climate Change

Bidwai analysed the shortcomings in India’s National Action Plan on Climate Change which are summarised below:

(a) The Plan greatly disappointed those who expected it to convey an acute sense of the gravity of the climate crisis and of the urgency of corrective action; to set some domestic targets, even if voluntary and moderate ones, for reducing emissions in relation to business-as-usual (BAU) scenarios; and to clearly enunciate India’s priorities in climate change mitigation and adaptation.\footnote{Id., at 129.}

(b) There is a huge void in the National Action Plan. It makes no commitment to equity or redistribution – which is of pivotal importance given the huge disparities of wealth, income and consumption in India’s super-hierarchical society. The Plan only speaks of ‘the principle of equity’ at the global level, and that too in terms of per capita emissions. In its statement of ‘principles’, it pledges a commitment to ‘a qualitative change of direction’, enhanced ‘ecological sustainability’ and ‘inclusive and sustainable development’. But this is
not reflected in the approaches and measures actually outlined in the Plan and the Missions.\textsuperscript{146}

Thus, the Plan does not aim for a radical change in the prevalent pattern of consumption, which has led to a sharp rise in India’s overall emissions, much of it attributable to the luxury consumption of the affluent. Rather, its emphasis by and large is on maintaining existing growth and consumption patterns, including elite lifestyles, while improving the efficiency of energy use, promoting renewable energy to some extent, and adopting some new market-based instruments or administrative means to achieve limited goals in a few other areas. That does not add up to a change of direction.

(c) Worse, the treatment accorded to the mission documents and the missions themselves testifies to a cavalier attitude towards the NAPCC. Many of the mission documents have still not been finalised. Nor do they contain, as they should, strategies, operational plans, timelines and budgets. They are in varying stages of revision and reformulation. Some missions have been ‘approved in principle’.\textsuperscript{147}

(d) National Mission for Enhanced Energy Efficiency leaves out power generation – which offers scope for raising the efficiency of boilers and turbines by 30-40 per cent. The assumption here is that the central and state electricity regulatory commissions will take care of the power

\textsuperscript{146} _Id._ at 130.

\textsuperscript{147} Ibid.
sector. But many of them lack the technical capacity for such regulation and have been extremely slow in producing results.\textsuperscript{148}

(c) Only nine industry groups are covered under the mission. This is apparently because only nine (thermal power, fertiliser, cement, aluminium, iron and steel, chlor-alkali, pulp and paper, textiles, and railways) were notified under the Energy Conservation Act of 2001, which empowers the government to prescribe energy consumption norms on the recommendation of the Bureau of Energy Efficiency (BEE). The notification was issued belatedly, in 2007. Instead of correcting this administrative default by extending regulation to other energy-intensive industries such as petroleum refining, petrochemicals, ports, electricity transmission, chemicals, sugar, etc., the mission simply carries over the lapse.\textsuperscript{149}

(f) The government has also fought shy of extending mandatory fuel-efficiency standards to an important emissions source - motor vehicles. Under the pressure of the automobile industry and the transport ministry, it has delayed announcing efficiency for vehicles and failed to discourage the sale of extremely energy-intensive sport utility vehicles (SUVs) and highly polluting diesel cars.

\textsuperscript{148} Id., at 132.

The BEE recently announced a star-based Standards and Labelling programme for end-use equipment. The scheme is currently in force for equipment/appliances such as frost-free and direct-cool refrigerators, tubular fluorescent lamps, room air-conditioners, distribution transformers, induction motors, pump sets, ceiling fans, LPG stoves, electric geysers and colour TV sets. Labelling is now mandatory for some appliances and to be shortly made so for more appliances.
All this speaks to a half-hearted effort in improving energy efficiency across the economy.\textsuperscript{150}

(g) Despite the experience of the CDM, its role model. Under the CDM, the prices of carbon credits (also referred to as Certified Emission Reductions) have fluctuated by an order of magnitude since 2007. Second, the PAT scheme underestimates the thinness of the ESCerts market and the likely mismatch between demand and supply, leading to great price volatility. This is further complicated by the possibility of false or inaccurate reporting, untested verification and monitoring protocols, and lack of clarity on the deterrent quality of penalties for non-compliance with efficiency norms. In India, such penalties tend to far too low and ineffectual – as in the telecommunications and power sectors.\textsuperscript{151}

(h) There is confusion about the need for and identify of a strong implementing agency. The BEE has been assigned that role. But it is an advisory and quasi-regulatory agency. Similarly, once created, EESL will also operate both as an energy services company and as the monitoring and implementing agency for various initiatives of the mission and of the BEE, creating a potential conflict of interest.\textsuperscript{152}

(i) National Water Mission document does not critically analyse the abysmal performance of India's most

\textsuperscript{150} Supra note 117 at 139.
\textsuperscript{151} Id., at 144.
\textsuperscript{152} Id., at 145.
important water projects, including big dams and canals, the critical issue of groundwater overexploitation, declining water quality and growing pollution and absence of recycling and recharging.\textsuperscript{153}

(j) However, the document’s worst aspect is its continued advocacy of large dams as the best way of meeting a likely rise in demand for water due to climate change. Most big dams have performed poorly in India, delivering less than 60 per cent of the potential. An analysis by the South Asian Network for Dams, River and People shows that between 1991-92 and 2003-4, there was ‘absolutely no addition to net irrigated areas by canals’ despite an expenditure of Rs 99,610 crores ($25 billion). In fact, the canal-irrigated area shrank by 3.18 million hectares (ha).\textsuperscript{154}

(k) There are technologically sound and economically attractive traditional water conservation approaches, including small local storages; community-run water harvesting; recharging; creation of groundwater storages; and better maintenance to prevent siltation and underfilling of reservoirs (currently about 25 to 40 per cent), etc. But the document is silent on them.\textsuperscript{155}

(l) National Mission on Sustainable Habitat document primarily deals with urban issues, particularly in the metropolis, and leaves out the bulk of the habitat of the

\textsuperscript{153} Id., at 147.
\textsuperscript{154} Id., at 148.
\textsuperscript{155} Ibid.
Indian people. Its focus is on optimisation of energy demand in ‘new and large commercial buildings’, on ‘better urban planning’, and (partial) regulation of waste materials. The document also mentions ‘adaptation to vulnerabilities arising out of climate change like increased frequency of droughts, floods, cyclones, stormwater surge, rise in sea-levels, etc’. But adaptation is not pivotal to it.\footnote{156}

The omissions here are striking. Thus, the urban and rural residential sector, which forms the bulk of India’s habitat, is almost entirely excluded. This sector has grown much faster than GDP for two decades or longer.

\footnote{(m) The NAPCC and the eight National Missions were hastily drafted without consultation with independent experts and civil society organisations. They are flawed and shoddy in many respects. Many of them do not contain clear targets, strategies, action plans, timetables or budgets. The mission documents do not reveal the responsibilities of the concerned actors. It is not clear if and how the content of the NAPCC and the missions will ever be communicated to ordinary citizens. The government has not even said that it plans to translate the relevant documents into Indian languages and disseminate them.\footnote{157}}
Table 1 shows recent initiatives taken by India on climate change.

**Table 1**

<table>
<thead>
<tr>
<th>AREA</th>
<th>Initiative/Event</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCIENCE &amp; RESEARCH</td>
<td>1. Indian Network for Climate Change Assessment (INCCA)</td>
<td>Network of 120 research institutions and 250 scientists launched major conferences planned in May and November 2010</td>
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<td></td>
<td>2. Himalayan Glaciers Monitoring Programme</td>
<td>Comprehensive programme to scientifically monitor the Himalayan glaciers – Phase I completed; Phase II launched; Discussion Paper on State of Himalayan Glaciers released</td>
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<td>3. Launch of Indian Satellite to Monitor Greenhouse Gases</td>
<td>ISRO to launch a micro-satellite in 2010 to study aerosols (soot particles), followed by a comprehensive satellite in 2011 to monitor GHG gases; India to join elite club of countries to do so</td>
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<td>4. India’s Forest and Tree Cover as a Carbon Sink</td>
<td>Research estimates the value of India’s...</td>
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<td>AREA</td>
<td>Initiative/Event</td>
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<td>forests as a carbon sink – assessment shows that they neutralise 11% of India’s annual GHG emissions</td>
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<td>POLICY DEVELOPMENT</td>
<td>5. India’s GHG Emissions Profile</td>
<td>India’s GHG Emission Pathways until 2030 under different assumptions made public; shows India will remain a minor per capita emitter even in 2030</td>
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<td>6. Expert Group on Low Carbon Economy</td>
<td>Planning Commission-led Group set up to develop strategy for India as a low carbon economy; to feed into twelfth plan process</td>
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<td>7. State Action Plans on Climate Change</td>
<td>Delhi becomes first State to release Climate Change Action Plan; other States finalising their Plans</td>
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<td></td>
<td>8. National Policy on Biofuels</td>
<td>National Policy on Bio-fuels approved by Cabinet to promote cultivation, production and</td>
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<tr>
<th>AREA</th>
<th>Initiative/Event</th>
<th>Contribution</th>
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<tbody>
<tr>
<td></td>
<td>use of Bio-fuels for transport and in other applications</td>
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<td>National Missions under National Action Plan on Climate Change</td>
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<td>National Missions on Solar Energy, Energy Efficiency and Strategic Knowledge approved; other Missions in final stages of preparation</td>
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<td>Conference to stimulate green building sector; to set an example the Govt. proposes that all its new buildings will be GRIHA 4* compliant subject to site conditions</td>
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<td>In-principle approval given to 30 ‘Solar Cities’ with aim of 10% deduction in projected demand of conventional energy through a combination of energy efficiency and renewable</td>
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<td></td>
<td>Energy efficiency</td>
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<tr>
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<tr>
<td></td>
<td>ratings made mandatory for 4 key appliances – refrigerators, air conditioners, tubelights and transformers from January 7, 2010; more to follow through 2010</td>
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<td>13. Fuel Efficiency Norms</td>
<td>Plan for fuel economy norms for vehicles announced; to be made operational in two years</td>
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<td>14. CDM Program</td>
<td>India assessed as Best CDM Country; Indian projects to neutralise 10% of emissions by 2012</td>
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<td>INTERNATIONAL COOPERATION</td>
<td>15. UN Climate Technology Conference</td>
<td>India successfully hosts global Conference on technology, Delhi Statement adopted</td>
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<td>16. SAARC Environment Ministers Conference</td>
<td>India successfully hosts SAARC Ministers Conference and agrees joint actions on Climate Change;</td>
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<td>17. India’s Submissions to UNFCCC</td>
<td>Report documenting India’s 12 proactive submissions to UNFCCC released</td>
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<td>18. State of Forests Report 2009</td>
<td>Latest State of Forest Report released; shows continued rise in India’s forest cover</td>
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<td>19. Launch of CAMPA</td>
<td>Ambitious Rs 11,700 crore (USD 2.5Bn) Programme for forest conservation launched</td>
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<td>20. Green India Mission</td>
<td>New mission under NAPCC to fast-track reforestation being finalised</td>
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<td>21. Capacity Building in Forestry Scheme</td>
<td>New Rs 369 crore (USD 80Mn) scheme for HRD for forest personnel</td>
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<td>22. Intensification of Forest Management</td>
<td>New Rs 600 crore (USD 125Mn) scheme to improve forest management, infrastructure, fires, etc.</td>
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<td>23. Inclusion of Forestry within NREGA</td>
<td>Forestry related activities included as part of India’s flagship employment guarantee scheme to fast-track reforestation; Pilots being implemented</td>
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Source: Yojana 1 (April, 2010).