



ILS LAW REVIEW

Volume III

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PRINCIPAL'S PAGE

I am very glad to present the third volume of ILS Law Journal to you. This volume focuses on various issues pertaining to environment. A conference on '*Environment and Public Law*' was held at the ILS Law College on 22nd February 2009 in memory of late Professor S.P. Sathe, our former Principal and well-known scholar. Various issues of Coastal Management Zone Notification, 2008, The Indian Biodiversity Act, 2002, Clean Development Mechanism and its Implementation in India, Project Tiger, were discussed during the conference. Shri Rajendra Singhji – the '*Jal Purush*' of India delivered S.P. Sathe Memorial Lecture on the topic "Community based conservation is the only solution for climate change." This issue of the ILS Law Journal incorporates the memorial lecture and paper presentations at the Conference. I am sure that not only the legal fraternity but all those who share concern for protection of environment will find this issue interesting.

I thank Shri S.J. Jaybhay, Lecturer at ILS Law College and team of students who worked very hard to bring out this volume.

Vaijayanti Joshi

EDITORIAL

I am very pleased to bring forth the third issue of the ILS Law Review to commemorate '*Remembering S. P. Sathe*' events from 20-22nd February 2009. The event usually comprises of a Public lecture, A National Moot Court Competition and a Conference on a particular theme. The Third Round theme was 'Environment and Public Law'.

Prof. S.P. Sathe in whose memory this event is organised annually was our former principal and Director, IALS. Prof. Sathe was well-loved and renowned expert on Constitutional and Administrative Law and his works are often quoted by legal experts across the globe.

Prof. Sathe, an avid patron of Human Rights also took an interest in socio-environmental rights. The public lecture, the moot problem which was drafted and the conference explored this central aspect of how people are affected by the changing environment.

The public lecture was delivered by Magsaysay Awardee, Shri. Rajendra Singh, on the topic 'community - driven consciousness is the only solution towards climate change.' Mr. Singh's address was an eye-opener to the many law students gathered there as he shared anecdotes and his various experiences of working towards water security in a state like Rajasthan. An abstract of his lecture is published here.

The moot problem was based on the current issue of the Hydro electric Power Projects being built on the Bhagirathi River in the state of Uttarakhand. 20 different teams from across the country brought interesting socio-legal arguments to this essentially environmental problem.

The conference was on theme "**Protection of Environment – Present and Future Challenges.**" The Conference comprised of four sessions on the multifarious themes of Biodiversity, Tiger Conservation, Coastal management and the working of the Kyoto Protocol. It is worthy to note that a publication on an environmental theme requires a certain amount of field work rather than mere archival research. We were fortunate that all our presenters are those who are pioneers in their respective fields. I thank Shri. Mahesh Pandya and the student presenters for their contribution to this Journal.

Prof. Santosh Jaybhay
(Lecturer, ILS Law College)

ACKNOWLEDGEMENTS

This Volume III is an outcome of the contributions made by the contributors, students and others.

I am thankful to Mr. Mahesh Pandya for his contribution to this review. Chiteisri Devi, Anandh K, Shruti Iyer and Kalyani Tulankar, all students of our college are thanked for their assistance.

Lastly, I acknowledge and appreciate Shree J Printers Pvt. Ltd. and Aarti Sawale for making the publication of Volume III.

New Coastal Management Zone (CMZ) Notification: Fair or Farce??

Mahesh Pandya¹

India's coastline is one of the most bio-diverse and unique ecosystems in the world. Rocky promontories, sand dunes, coral reefs, rich mangrove tracts, wide beaches teeming with myriad life forms. It is also one of the most densely populated coastlines, supporting the survival of about 10 million fisher folk.

Most importantly, the lands adjoining the sea-front are critical for the housing of fishing communities. The fisher families from regions such as Kutch in Gujarat have their villages inland, but migrate, with their families, to the sea-front and stay in temporary shelters for months, earning small incomes from fishing.

Yet this region has remained ignored in the environment and development discourse. With the country's push towards expansion of the manufacturing and service sectors, the coastline is being increasingly sought for the establishment of thermal power plants, tourism facilities, captive ports and Special Economic Zones

Fragile ecology

This has led to these fragile ecological spaces with livelihood connections becoming highly contested on how they should be used, or who should have the first privilege over the use of coastal spaces. Almost all coastal States have seen communities protest against large-scale projects, be it the Gorai SEZ in Maharashtra, the Adani port and SEZ in Gujarat or Posco's steel plant and captive port in Orissa.

A comprehensive legal resolution to these conflicts, starting with the granting of community rights to the fisher community over the coastal stretches where they have always resided, has been long pending. Most of them still do not have any legal holding over their dwelling spaces or beaches that are essential for conduct of their occupation, such as berthing boats and fish drying. However, instead of setting into motion this process, the Central Government seems to have further stoked the embers.

¹ Director, Paryavaran Mitra, Ahmedabad.

New CMZ Notification

On 1 May 2008 the Government of India has published the draft Coastal Management Zone (CMZ) Notification, with the ostensible purpose of seeking from the public objections or suggestions, to be sent in within 60 days of the aforementioned date.

The CMZ Notification, in terms of its character and contents, in the nature and course of its preparation and in the way it is being thrust upon us, is the perfect embodiment of callousness, injustice and assault on environment and livelihood.

The CMZ Notification seeks to replace its previous avatar, the Coastal Regulation Zone (CRZ) Notification of 1991. The Notification had been amended and diluted 17 times in the 19 years of its existence, each time opening the coast for further infrastructure and industrial development.

One would have expected the Government to take the greatest pains to protect this incredible asset. But the most it did was to promulgate, in February 1991, the Coastal Regulation Zone (CRZ) Notification. Please note, not even an Act, nor even a set of Rules, but only a Notification; something that by its nature is not up to dealing with a multi-disciplinary matter involving multiple existing statutes and something that may be amended without consulting the Legislature. But notwithstanding this and other important limitations, the original CRZ Notification, had it been properly implemented, would have been considerably effective in protecting coastal environments and resources from depredations.

But that was not to be. Amendments came in droves, the great bulk of them directed towards diluting the intent and scope of the CRZ. And the tragedy is that the CRZ today, even in its grossly diluted form, remains unimplemented along long stretches of the Indian coastline.

What is the reason for this non-implementation? It is administrative lethargy, myopia and yielding to the pressures of lobbies having an unhealthy appetite for coastal land and resources.

But with astonishing temerity, the same governmental setup that is guilty of not implementing CRZ has proclaimed this non-implementation as the reason for a new and atrociously permissive Notification, the CMZ!

And what is this CMZ? Notwithstanding repeated demands from coastal fishermen, environmental activists and the civil society, the government has not come up with a comprehensive legislation (Act). What it has proposed instead is another Notification to replace the CRZ Notification.

This proposed Notification, to put it in brief, regularizes the violations to CRZ and opens the way to further depredations of our coastal ecology and environment. And as it is just another Notification, it can easily be made still more permissive through a new set of administrative amendments.

Critical changes

The CMZ Notification, among other things, brings in two critical changes in the way regulation along the coast is envisaged for the future. First, it completely does away with the mandatory 500-metre "no development zone" (NDZ) from the high tide line (HTL), along the entire coast. This NDZ essentially comprises ecologically fragile areas such as mangroves, estuaries, turtle nesting beaches, rocky outcrops and sand dunes.

The second is the replacement of the parameters based on which planning of activities along the coast will take place. The HTL, which was used in the CRZ to demarcate areas restricted for infrastructure development, is to be replaced by a scientifically demarcated Set Back Line (SBL). The SBL will need the entry of "scientific experts" to replace the traditional wisdom of the fishing communities and demarcate where what activity can take place on the coast. A reading of the proposed Notification makes it obvious that the drafters equate a scientific law with making scientists and bureaucrats the decision-makers. Nowhere will fish-workers and other coastal communities have a say in this land use planning and management. And ironically, they can tell a high tide line better than anyone else!

The Parliamentary Standing Committee on Science and Technology, Environment and Forests had invited suggestions on the changes to the foremost legislation meant to regulate development along India's 8,000-kilometre coastline. The time line was December 12, 2008. The report is still under finalization.

But well before the Parliamentary Committee states its recommendations, and also well before the finalization of the proposed Notification, the MoEF has begun implementation. The Ministry, along with the State governments of Orissa, West Bengal and Gujarat, is currently engaged in implementing the World Bank funded Integrated Coastal Zone Management Project (ICZMP) approved in February, 2007.

It seeks to pursue one of most critical components of the draft CMZ Notification 2008 the demarcation of the SBL and preparation of Integrated Coastal Zone Management Plans. Its insistence of pushing for implementation of a draft legislation and complete apathy towards an existing legal framework is problematic twice over.

Why CMZ should be rejected?

Conservation of coastal resources and protection of lives and livelihood options of communities dependent thereon is a multidisciplinary exercise involving multiple existing statutes. Therefore only a comprehensive Act and not a Notification can provide the legal framework for the same.

The CMZ condones and regularizes all violations of CRZ Notification 1991.

Its implementation has been left on the same CZMAs (Coastal Zone Management Authorities) that have so shamefully failed in implementing CRZ norms.

It replaces clearly delineated restrictions with yet to be prepared ICZMPs (Integrated Coastal Zone Management Plans) having vague and inappropriate guidelines, thus removing the restrictions on damaging activities.

Moreover, the aforesaid guidelines, as opposed to the far clearer CRZ restrictions, are incomprehensible to common coastal and fisher people largest stakeholders and custodians of our coastal resources making it more difficult for them to intervene.

While for CMZ-I areas the main concern appears to be conservation, for areas under other categories (CMZ II to IV) the only concern appears to be vulnerability. Thus the 'set back line' has no conservation parameter attached to it. This is dangerous for large tracts of the coast.

The area indicators of CMZ categories are confusing and contradictory; this will make implementation and enforcement impossible.

The CMZ Notification fails to indicate basic parameters of integration in the suggested ICZMPs, thus divesting it of any significance and turning it into a misnomer that can be used by powerful interest groups.

It indicates no regulation with regard to fishing and fishery related activities and this is ominous for both coastal ecology and traditional fishers. It welcomes unbridled exploitation of coastal water life through use of aggressive and destructive gears.

The Management Methodology given in the draft CMZ Notification confines itself exclusively to technical criteria of management. There is not even a word regarding the human resources of management. It describes (inadequately) how to manage without indicating who is to manage.

It has continued with the main negative aspect of CRZ shutting out the main stakeholders, the traditional fishermen, from management and monitoring.

(As of November 2010, the Draft CMZ Notification, 2008 stands revoked while the Draft CRZ Notification, 2010 stands at the last stage on its public consultation to various stakeholders. It is hoped that the new Notification, which in the opinion of various stakeholders is far better drafted and practicable – repealing all previous amendments shall provide a better legal status and protection to the Coasts in India.)

Coastal Management in India: Twisted Past, Bleak Future

Shruti Iyer & Anandh K*

The coast, to put simply, is where the land meets the sea.¹ A precise line that can be called a coastline cannot be determined due to the process of tides. The term "coastal zone" can be used instead, which is a spatial zone where interaction of the sea and land processes occurs.² Indian coastline stretches about 5700 kilometres on mainland and about 7500 kilometres including the two island territories and exhibits most of the known geomorphologic features of coastal zones.³ India has been identified as one amongst 27 countries which are most vulnerable to the impacts of global warming related accelerated sea level rise.⁴ The high degree of vulnerability of Indian Coasts can be mainly attributed to low-lying coastal area, high population density, frequent occurrence of cyclones and storms, high rate of coastal environment degradation and comprise a diverse variety of habitats and ecosystems – from estuaries, coral reefs, sea account of pollution and non-sustainable development.⁵ Coasts (or coastal ecology) include grass beds, mangrove swamps, creeks, back waters and lagoons to bays, cliffs, sandy and rocky beaches.

The linkages between these habitats and ecosystems are essential for the maintenance of food webs, migration routes and increased productivity. These functions generate 'goods' (e.g. fish, seaweed, oil and gas and minerals) and 'services' (e.g. mangroves protecting the coasts against the storms, tidal waves; transport and recreation). Such 'goods' and 'services' have an economic value as well.⁶ In addition to farming and fishing - the two major coastal industries - there are several development interests which also show a marked preference for the coastal region. Industries wish to be located there for easy access to the sea for discharge of effluents; thermal power plants, for easy access to the enormous quantities of cooling water they need; tourism promoters want to use the beaches for raising hotels; middle- and

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¹ The American Heritage Dictionary of the English Language, 4th Ed. (2000), <http://www.bartleby.com/61/43/C0434300.html>, last retrieved 20-10-2009

² Prof. Stephen A. Nelson, Coastal Zones, (2009) <http://www.tulane.edu/~sanelson/geol204/coastalzones.htm>, last retrieved on 20-10-2009

³ Diksha Aggarwal and Murari Lal, Vulnerability of Indian Coastline to Sea level Rise, Centre for Atmospheric Sciences, Indian Institute of Technology

⁴ Ibid.

⁵ Ibid.

⁶ D. Nandakumar and M. Muralikrishna, Mapping the Extend of Coastal Regulation Zone Violations on the Indian Coast, National Fishworkers Forum, Thiruvananthapuram, (1998), http://www.ceeindia.org/cee/pdf_files/cmz_violation_studyby_thomas_kocherry.pdf, last retrieved on 20-10-2009 (henceforth referred to as D. Nandakumar and M. Muralikrishna)

upper-class citizens wish to have residential bungalows located there. There are also activities for which foreshore facilities are essential: for example, ports, harbours, jetties, wharves and quays.

Need for Conservation

All these new development pressures are in addition to demands already being made by existing coastal inhabitants. The concentration of development activities on such a scale, in fact, threatens to destabilise the very resources that provide the possibilities of living in the coastal belt. The increased economic activities in the region over the past three to four decades have led to the depletion of marine life due to over fishing in coastal waters, the levelling of sand dunes (nature's first line of defence to protect the hinterland from the ravages of the ocean), the destruction of hundreds of acres of mangrove forests and coral reefs, and the ingress of saline water into adjacent freshwater aquifers. In addition, pollutants and toxins galore are emptied daily into the coastal waters as the authorities find it a cheap and easy way to get rid of town and industrial wastes. In India, these pressures would have led to a sharp decline in both the aesthetic and the ecosystem values of such areas and would also have impinged negatively on traditionally sustainable economic activities carried out by fishermen.⁷ Apart from its value to human needs and wants, oceans serve as the largest carbon sinks. In other words, maintaining the integrity of the highly sensitive coastal ecology is crucial for maintaining a balanced equation of Nature, and for the subsistence of millions of people who depend on the natural coastal resources for livelihood.

I

Coastal Regulation Zone Notification 1991

In 1981, the first foundation for protection and conservation of the Indian coastal ecology was laid, when Smt. Indira Gandhi, the then Prime Minister, issued guidelines to the Chief Ministers of all coastal States to stop all development activities up to 500 metres from the highest water line. Following this, the first legal framework, namely, the CRZ Notification 1991 (henceforth referred to as the CRZ 1991) was brought in place on 19-2-1991 in the exercise of powers under the Environment Protection Act, 1986. The Environment Protection Act and the Rules give the Ministry of Environment and Forests (henceforth referred to as the Ministry or MoEF) the power to take actions 'for the purpose of protecting and improving the quality of environment and preventing, controlling and abating environmental pollution.' This includes the promulgation of specified notification for this purpose.

⁷ India's Policy for Protecting the Coastal Environment for Sustainable Use, UNDP, <http://tcdc.undp.org/sic/experiences/vol3/Coastal%20India.pdf>, last retrieved on 20-10-2009

Coastal Regulation Structure

The coastal zones are divided into four categories:

Coastal Regulation Zone I (henceforth referred to as CRZ I) includes (i) areas that are ecologically sensitive and important, such as national parks/marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves, corals/coral reefs, areas close to breeding and spawning grounds of fish and other marine life, areas of outstanding natural beauty/historical/heritage areas, areas rich in genetic diversity, areas likely to be inundated due to rise in sea level consequent upon global warming and such other areas as may be declared by the Central Government or the concerned authorities at the State level from time to time; and (ii) area between low tide line (LTL) and high tide line (HTL).

Coastal Regulation Zone II (CRZ II) comprises sectors that have already been developed up to or close to the shoreline; these are 'developed areas' referred to as those within municipal limits or in designated urban sectors which are already 'substantially built up' and which have been provided with drainage, approach roads and other infrastructure such as water supply and sewerage mains.

Coastal Regulation Zone III (CRZ III) refers to areas that are relatively undisturbed and which include coastal zones in rural areas (developed and undeveloped) and also urban areas that are not substantially built up.

CRZ IV only comprises insular stretches of Andaman, Nicobar, Lakshadweep and other small islands.

The mandate of CRZ 1991 was in protecting the natural habitat, ensuring species proliferation, and thus supporting sustainable livelihoods of traditional coastal communities. Restrictions on the setting up or extension of industries, operations or processes in the coastal regulation zone were prescribed. However, the construction /reconstruction of dwelling units between 20 and 500 metres of the High Tide Line was permitted so long as it was within the ambit of traditional rights and customary uses such as existing fishing villages and gaothens. In effect, the CRZ and the interests of fisher folk dovetailed perfectly since they were of mutual benefit. To the fisher folk, these regulations had brought a set of exclusive settlements rights in the CRZ III zone. The CRZ III zone stood for areas that were relatively undisturbed and included coastal zone in the rural areas (developed and underdeveloped).⁸

⁸ Proposed CMZ the Antithesis of CRZ, www.solutionexchange-un.net.in/environment/cr/res05060801.doc, last retrieved on 20-10-2009 (henceforth referred to as Proposed CMZ the Antithesis of CRZ)

Dilutions

Although the draft was open for public scrutiny before it was notified, pressure from various lobbies like the Federation of Hotels' and Restaurants' Association of India⁹ led to the formation of an apex committee called the B. B. Vohra Committee. Subsequently, the first amendment was issued in August 1994. This order redefined the HTL, and proposed six amendments: distance from HTL for rivers, creeks and backwaters were reduced to 50 m; construction of basements and barbed wire fencing was granted; density of certain constructions could increase; and flattening of dunes and permanent structures for sports were banned. Simultaneously, all coastal states were bound to formulate Coastal Zone Management Plans (CZMP) classifying coastal stretches as CRZs.¹⁰

During Prime Minister Shri Rajiv Gandhi's term it was decided that the 500 metre limit on beach construction be relaxed to 200 metre in four specific cases – Goa, Puri (Konark), Madras (Mahabalipuram) and Trivandrum to foster tourism. In order to strictly regulate these, an inter ministerial committee was set up under the Ministry of Tourism to examine and clear each proposal for a hotel or beach resort between 500 metres and 200 metres subject to the safe guards laid down by the government. It was evident from the rapid pace at which hotels were being cleared, that both the committee and the State governments were not effective regulators, rather they were the biggest violators.

On Dec 12, 1994 a Supreme Court bench comprising Justice Kuldeep Singh and Justice S.C. Sen ordered that all construction within 500 metres of the High Tide Line be stopped. This judgment encouraged the fishermen and environmental activists to fight for their rights.¹¹ As per the Supreme Court directions, each state government with a coastline was required to draw up CZMPs which were subsequently sent to the MoEF for approval. As a requirement of the enforcement of CRZ 1991 issued by the Ministry, the High Tide Line and the coastal regulation zones were to be marked. This was hardly followed as most states used the largely disputed and criticised satellite mapping technique, and periodic changes to the HTL were never observed or recorded.¹²

The amendment dated 29 December 1998 has recognised a few institutions to mark the HTL and LTL. Till today, many state governments

⁹ <http://www.indiaenvironmentportal.org.in/node/19359>, last retrieved on 20-10-2009

¹⁰ Antonio Mascarenhas, *The Coastal Regulation Zone of Goa: Oceanographic, Environmental and Societal Perspectives*, http://drs.nio.org/drs/bitstream/2264/497/3/Curr_Sci_77_1598.pdf, last retrieved on 20-10-2009

¹¹ *Indian Council for Enviro-Legal Action v Union of India*, (1996) 5 SCC 281

¹² D. Nandakumar and M. Muralikrishna, *supra* n 6

have not marked the High Tide Line but permitted project based markings by the public sector and private sector using these recognised institutions. The MoEF has failed to enforce this minimum requirement, which will enable people to monitor and protect the coast.

In the meanwhile, the 1991 Notification was further diluted by two amendments in 1997 on 31st January and 9th July, heeding to the pressure of the Industrial lobby. Permission for storage of petroleum products in CRZ areas other than CRZ I was accorded subject to the implementation of safety measures and regulation. Construction of infrastructure facilities within CRZ III was permitted. Shifting of the authority for the clearance of projects related to ports, harbours, jetties, quays, slipways, bridges and sea-links from the MoEF to Ministry of Surface Transport became an open invitation for the establishment of the most toxic polluting industrial complexes.

This CRZ law was further proposed for dilution by the 5 August, 1999 amendment. It contained 4 major proposals which would have far reaching consequences along the coast. They are:

- I. permitting oil and natural gas exploration, receipt, storage and exploration;
- II. permitting withdrawal of ground water manually in the No Development Zone (NDZ);
- III. It modified the original wording of "fishing villages" and "gaothens" to "local inhabitants" thereby legitimising all farm houses, hotels, tourist resorts, industries, non coastal communities as 'local inhabitants' and thereby regularise all these groups who had accepted/could occupy in violation of CRZ law.
- IV. This amendment proposed to reduce the NDZ areas along rivers, creeks, bays, estuaries, etc to 50 metre which again will have severe repercussion on the water bodies and coastal eco systems.¹³

Defects in the Notification

There are various scientific hitches in the CRZ Notification as well. The setback line was supposed to be a buffer zone of 500 metres from the HTL in CRZ I and 200m in CRZ III along the open sea front and 100m or the width of the river or creek whichever is less for rivers and back waters. However, the setback lines were vehemently opposed for the following reasons:

¹³ Understanding Coastal Regulation Zone Law in India, education material compiled by Coastal Action Network, Tamil Nadu at pp. 3-6

- I. The coastal villagers opposed this because in undeveloped villages along the coast the fishermen had very less chances to expand their houses or build new ones.
- II. Many beach resorts have been set which violate the set back line due to collusion of the state government authorities.
- III. Various structures are built along hill slopes as the CRZ Notification is silent about hillocks and promontories.
- IV. New spaces for construction are being created by levelling dunes and reclaiming swamps.

All these activities distort the very purpose for which the notification was passed. The CRZ 1991 aimed at protecting the inland stretches affected by tidal action. However, various bodies falsely represented that there was no tidal action especially in places like Goa. The zoning of CRZ was supposed to be done by the HTL which had to be done by the State Authorities. But the callousness of the States continued and the HTL was never demarcated properly in any State except Kerala. Sand dunes were not at all included in the original notification and were later included in Goa after various representations were made by the National Institute of Oceanography. (FN)

Also the notification completely overlooks the phenomenon of shifting sand dunes and the changing nature of the HTL. The notification calls for a permanent HTL to be marked which is not scientific. According to the Notification all uninhabited offshore islands are classified as CRZ I but some rivers have developed shoals leading to dense mangrove formations and resorts are built on these inland river islands. There is no mention of these in the notification. The effect of global warming and rise in the sea level has been neglected.

Implementation Inadequacies

The implementation challenges for the CRZ Notification were clear because there was not a single authority assigned for the implementation of the Notification and most of the grievances were 'lost in transit'. There are at least 12 ministries who are responsible for the state of the coasts in India today. The jurisdiction wars are as follows: The Ministry of Agriculture is supposed to look after Fisheries Management and Coastal Aqua culture; The Ministry of Defence for Oil Pollution and Poaching; The Pollution Control Board for Coastal Pollution; The Ministry of Commerce for marine products development and SEZ's; Ministry of Surface Transport for Ports and Harbours; Ministry of Urban Transport for Town and Country Planning; Ministry of Industries for Coastal Industries; Ministry of Mines for Coastal and Offshore mining; Ministry of Home for Disaster Management; Ministry

of Petroleum and Natural Gas for Oil Exploration; Ministry of Chemicals and Fertilizers for the use of chemicals and fertilizers and the State / Union Territory Environment Department for the coast and marine management under the Water Act and Air Act. One look at this list is enough to understand the reason for the abysmal implementation and protection of the coasts in India.

Another road block in the implementation of this notification was the State CZMP's. As per Supreme Court orders, all states were to finalise their CZMPs and submit it to the Central Government by June 1996, however this was also not adhered to in many cases. The CZMP's were to change the management of the coast based on the vulnerability line and not the set back line as given under the CRZ Notification. However, none of this was implemented seriously as there were many violations of the CRZ.

Violations of CRZ

The most significant draw back in the CRZ Notification was its failure to mention any punitive measures for violators. This gave the State Government and the Tourism and Industrial Lobbies a free hand to violate the norms of CRZ as they wish.

In the stretch between Palavakkam to Mahabalipuram along the East Coast Road in Tamil Nadu, CRZ Law is totally violated in the name of tourism development. Out of 92 violations in this stretch there are 14 hotel industries, 3 amusement parks, 6 shrimp farms, 7 farm houses and 37 real estates, all of them established within 150 metres from the high tide line and much after 1991.¹⁴

Pulicat lake, the second biggest brackish water lake in India, categorised under CRZ in the CZMP of Tamil Nadu, 1996, and notified in Ramsar Convention on Wetlands, is facing destruction due to the functioning of North Chennai Thermal Power Station, the construction of Ennore Satellite port and the proposed construction of a gigantic petrochemical at Kattupalli in 7500 acres of wetland.¹⁵

In a report prepared by D. Nandakumar and M. Muralikrishna for the National Fish Workers Forum, it was found that there were 10 CRZ Violations in Gujarat, 44 in Maharashtra, 35 in Karnataka, 377 in Kerala, 18 in Tamil Nadu, 48 in Andhra Pradesh, 23 in Orissa and 177 in West Bengal. The report also highlights the shoddy work done by the CZMP's in various states. (FN)

¹⁴ Fisher Folk in Tamil Nadu, Tamil Nadu Social Development Report 2000, http://www.socialwatchtn.org/publications/7.d.Fisher_Folk_in_Tamilnadu.pdf, last retrieved 20-10-2009

¹⁵ Ritwick Dutta, Environmental Activist Handbook, Socio-legal Information Centre, Mumbai pp. 172

The implementation of this notification was by and large neglected by most states. Vested interests and lobbying by the tourism and industry sectors has led to many demands to even get rid of this notification. In its history of the last 18 years, the notification has been amended 25 times! Each of these 'dilutions' made the law more impotent.

Swaminathan Committee

Post tsunami the Indian government realised its mistake and constituted a committee under the chairmanship of Prof. M. S. Swaminathan in July 2004. The report of the committee was submitted to the Ministry of Environment and Forests in February 2005. This report was heavily criticised by environmentalists as being more 'political' than 'environmental'.¹⁶ The entire process of review of the CRZ Notification was criticised because it was devoid of the participation of the public interest groups or coastal communities.¹⁷

The Swaminathan Committee was constituted to review the functioning of the CRZ Notification and work in consult with various NGO's and Fishermen to understand the problems in implementing the Notification. Sadly, most of the committee's meetings seemed to have happened inside AC halls along the coastline. The entire report and the recommendations contained therein, meetings of the Expert Committee, rather than framing the report and recommendations on the basis of a wider stakeholder consultation. The Swaminathan Committee has adopted the definition of setback line based on the controversial report by Dr Ramachandran in the Expert Committee report on Ocean Regulation Zone which was earlier rejected by the Ministry of Environment and Forests itself.¹⁸

Traditional rights of fishermen have been ignored. Several commercial activities – SEZ development, industrial estates, tourism, mineral mining, development of green field airports, man-made coastal protection structures and defence installations have been proposed as permissible activities in the ecologically sensitive areas accessed by fisher people. Only the State Government's permission is required to set up effluent treatment plants on the sea shore to build hotels, resorts and tourism and sports facilities, boat repair and salt farming.

¹⁶ Sridhar A., R. Arthur, D. Goenka, B. Jairaj, T. Mohan, S. Rodriguez and K. Shanker, Review of the Swaminathan Committee Report on Coastal Regulation Zone Notification, UNDP, New Delhi, (2006), <http://www.dakshin.org/DOWNLOADS/Review%20of%20the%20Swaminathan%20Report.pdf>, last retrieved on 20-10-2009 (henceforth referred to as Sridhar A, et al Review)

¹⁷ Ibid.

¹⁸ Proposed CMZ the Antithesis of CRZ, Supra n 8

The zoning proposed by the Swaminathan Committee for the consideration of the Ministry is highly problematic and likely to pass the way for the speedy destruction of coastal communities and ecosystems. The Indian coastal community has historically practised the common property system as far as ownership of the coast is concerned. Coasts were primarily the workplace of Indian fisher folk, free and exclusive. Ownership rights were never an issue, that is, until the CRZ notification was passed which for the first time ever divided coasts into four zones and drew regulations to determine permissive and prohibitive activities both for industry and community use, within each zone.¹⁹

One of the critical aspects dealt with by the Swaminathan Committee was implementation and accountability. Whereas the Swaminathan committee was constituted to review and suggest measures to strengthen the existing the CRZ Notification, it suggested that the CRZ zoning be scrapped and a new Coastal Management Zone be brought. The Committee also failed to review the implementation of the CRZ Notification state wise. The Committee failed miserably in understanding the reasons for coastal deterioration when it suggests a top-down approach to tackle the problems in implementation. Clearly, it is evident that a successful coastal management plan is impossible without a bottom-up approach and involvement of the lowest strata. In a marked departure from its lofty ideals, the Committee did not consult any civil society organisations or local communities in consultations, workshops or meetings. The MoEF did not call for any opinions/objections from the public even after the report was submitted.

The committee strongly recommended a mandatory Environment Impact Assessment and Social Impact Assessment for each state but this was also conveniently neglected. If a scientific approach is not adopted to set the vulnerability line, it is bound to meet the same fate as that of its predecessor the setback line. High resolution mapping techniques should be included to decide the vulnerability line. A strict parameter of vulnerability line is not practical as it is bound to change from time to time and place to place. Effects of climate change and sea level rise should also be taken into account. The committee fails again in merely suggesting a new measure with no scientific basis or implementation mechanism in place.

Visibility of the sea shore is necessary for the fishermen as a part of their daily decision making. The bio-shields (elaborate) suggested by the committee hinder this. It is pertinent to note that the committee did not have any scientific data to back its recommendations. The report has no mention of the use of alternative/renewable sources of energy and places emphasis on

¹⁹ Ibid.

the exploitation of hydrocarbons and minerals as goals of national importance.

The most appalling drawback of the committee is that it failed to mention any clear time frame for the implementation of any of the changes it mentioned. It provides no clarity in the interpretation of the various clauses and terms in the current notification. Irrespective of whether a new amendment/notification is introduced or not based on the Swaminathan Committee report, the earlier violations of the CRZ notification cannot be overlooked.

The report has no discussion on the various orders of the High Courts in the country and their interpretation. The report has no mention about the state departments of planning, municipal offices and other local bodies, Panchayats and their roles in the old or new management framework. Issue of mechanism for punitive action in the CRZ Notification has been overlooked. Hazard and Risk Management have also been overlooked. There is no recommendation for implementing protection of heritage sites and archaeological sites of importance. They make no mention of the earlier Murari Committee report related to fisheries and no definition of "public facilities" is mentioned which it recommends should be given to all fishermen. The report completely overlooks the dispute relating to inter-tidal actions and rocky pools. There is no mention of soft bottom communities which are so essential in protection and conservation of the benthic food chain.#

The section on sea-turtle nesting demonstrates a complete inadequacy in understanding the Indian coastline. Sea-turtle nesting has been prevalent in India all along the Indian Coastline for the last 25 years. The committee has no mention of the provisions of the Wildlife Protection Act or the current status of Marine National Parks and Sanctuaries. The recommendations about the mangroves and sea grass beds have misleading facts. The committee recommended various international best practices without considering the feasibility of implementing them in India. The report of the committee was not even signed by all the members.²⁰

II

Coastal Zone Management Notification 2007

The Central Government in the Ministry of Environment and Forests accepted the report and recommendations of the Swaminathan Committee in principle and decided to bring a new legal framework in place of the existing

²⁰ Sridhar A., et al, Review, *Supra* n 16

CRZ 1991. A draft of this new notification was "leaked" some time in 2007.²¹ This draft was faced with strident criticisms from environmentalists and citizens groups. (Henceforth, this draft will be referred to as CZM 2007)

Objectives

CZM 2007 aimed at "protection and sustainable development of the coastal stretches and marine environment through sustainable coastal zone management practices based on sound, scientific principles taking into account the vulnerability of the coast to natural hazards, sustainable livelihood for local communities, and conservation of ecologically and culturally significant coastal resources."²² It also sought to conserve and improve the "management of the coastal resources by enhancing the living and non-living resources of the coastal zone, by ensuring protection to coastal population and structures from risk of inundation from extreme weather and geological events and by ensuring that the livelihoods of coastal populations are not unduly hampered."²³

A careful perusal of the various clauses in the draft show that the objectives could not have been achieved in true spirit through the framework so cleverly designed to respond to industry and developmental wants, ignoring the needs of environment and citizens, especially coastal communities.

Coastal Management under CZM 2007

Categorisation of Coasts

The coastal areas are to be divided into four categories. Coastal Management Zone I (henceforth CMZ I) consisting of areas designated as Ecologically Sensitive Areas which are listed generically in Appendix II of the Notification; Coastal Management Zone II (henceforth CMZ II) consisting of Areas of Particular Concern such as economically important areas, high population density areas and culturally/strategically important areas which are listed generically in Appendix III; Coastal Management Zone III (in short CMZ III) consisting of areas other than those included in CMZ I,

²¹ See V. Vivekanandan, Comments on the CMZ Draft Notification of 1st May, 2008, <http://beautifulpondicherry.files.wordpress.com/2008/05/comments-on-cmz-draft-notification-of-1st-may-2008siffs.pdf>, last retrieved on 20-10-2009 (henceforth referred to as Vivekanandan); See also Sridhar A., M. Menon, S. Rodriguez and S. Shenoy, Coastal Management Zone Notification '08 – The Last Nail in the Coffin, ATREE, Bangalore (2008), <http://www.dakshin.org/DOWNLOADS/LastNailintheCoffin.pdf>, last retrieved on 20-10-2009. The authors knew of and read the CZM 2007 given as Annexure 3 in Menon M., S. Rodriguez and A. Sridhar, Coastal Management Zone Notification '07 – Better or Bitter Fare?, Produced for the Post-Tsunami Environment Initiative Project, ATREE, Bangalore, pp. 31, (2007), <http://www.dakshin.org/DOWNLOADS/BitterorBetterFare.pdf>, last retrieved on 20-10-2009.

²² Objective clause, CZM 2007

²³ Para 4, Preamble to CZM 2007

II and IV; Coastal Management Zone IV (in short CMZ IV) consisting of island territories of Andaman & Nicobar, Lakshadweep and other offshore islands. Islands in coastal backwaters not coming under CMZ I and II may be classified as CMZ IV at the option of the Local Authority, otherwise falling under CMZ III. Such an option, once exercised, cannot be changed.

Management Scheme

Integrated Coastal Zone Management and Integrated Coastal Zone Management Plan: Integrated Coastal Zone Management (in short ICZM) is the process by which decisions are made for sustainable use, development and protection of coastal and marine areas and resources. The Integrated Coastal Zone Management Plan (for short ICZMP) is the land use plan prepared for the implementation of the ICZM. The ICZMP will be reviewed by the Ministry of Environment and Forests based on request from concerned State/ Union Territory. The concept of ICZMP inherently paves way for developmental wants compromising on environmental concerns. This concept is devoid of a minimum protection standard, containing only finely drafted proclamation of environment protection. Even this claim is diluted in the name of "technical feasibility and costs". The planning is left open to the Government and the past experiences of governmental measures are not reassuring.

CMZ I: The Ecologically Sensitive Areas will be identified jointly by the Ministry of Environment and Forests and the concerned State/ Union Territory. All activities in these areas will be regulated by the State/ Union Territory Coastal Zone Management Authority on the basis of ICZMP. The ICZMP for CMZ I areas is to be prepared by the State/ Union Territory with the help of one or more scientific research institution(s) specialising in coastal resources management and notified by the Central Government. The ICZMP would be endorsed by the State/ Union Territory Environment Appraisal Committee and would thereafter be forwarded to the Ministry of Environment and Forests for review. The Ministry of Environment and Forests would approve or reject the plan within 60 days of its receipt. The ICZMP should be notified by the State/ Union Territory in terms of the approval given. In the event of expiry of 60 days without a decision by the Ministry of Environment and Forests, the State/ Union Territory may notify the plan with the endorsement of the State/ Union Territory Environment Appraisal Authority. The conservation and protection through ICZMPs are based of "technical feasibility and costs" and the National Environment Policy, 2006. Developmental wants are subsumed in these terms and that will gain primacy over conservation needs. These terms carefully camouflage the true intentions of the Government. Further, the National Environment Policy has been heavily criticised for being a compromise of environmental

concerns.²⁴ Therefore, any conservation based on such a policy is not a bright promise.

CMZ II: There are two options of managing Areas of Particular Concern. Option A is, where areas are not covered by coastal protection structures, a setback line²⁵ would be demarcated along the coast and except for activities requiring shoreline access which are listed in Appendix V, all new physical and social infrastructure and habitations are to be located beyond this setback line. In case any infrastructure is sought to be expanded, the entire infrastructure has to be relocated beyond the setback line on the landward side. Modernisation and repair work may be undertaken with prior approval as per local laws without increase in the covered area. There is no additional restriction under this notification on any activity on the landward side of the setback line save as required by the laws of the local authority. Opening up the coasts on the landward side beyond the setback line and that too without any environment specific regulation is inconsistent with the spirit and objectives of the notification, casting only more doubts on the true intentions of the Government. This, in fact, defeats the object of bringing activities on the coasts under regulation.

Option B is that of coastal protection structures. One or more coastal protection structure(s) may be constructed to provide protection from coastal hazards. The detailed engineering design of these structures together with the delineation of the areas to be protected thereby would be reviewed and endorsed by the State/ Union Territory Coastal Management Authority and thereafter be submitted to the Ministry of Environment and Forests for approval. The Ministry of Environment and Forests has to convey its approval or rejection within 60 days of receipt failing which the State/ Union Territory may convey approval of the design to the local authority. Upon completion of construction the structure would be inspected by a competent technical authority and a report thereof would be submitted to the Ministry of Environment and Forests for confirmation of satisfactory completion of work. The Ministry of Environment and Forests should confirm or reject the same within 60 days of receipt failing which the State/ Union Territory will confirm satisfactory completion to the local authority. Upon satisfactory completion of the construction of the coastal protection structures, there will be no additional restrictions under his notification on activities in areas so protected, subject to laws of the local authority. Option B is dangerous! Coastal Protection Structures may be hard or soft methods. Hard options of protection structures (including sea walls) cause more damage than protection. Further, it should be noted that the exercise of the option will be

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²⁵ The concept of setback line as envisaged by the notification has been explained below.

based on social, political and economic consideration than on environmental, resulting in sea walls along most parts of the Indian coastline falling under CMZ II.

CMZ III: The management scheme and the provisions thereof of areas under this category are similar to the setback line option (Option A) under CMZ II. Similar to Option A under CMZ II, leaving activities on the coasts on the landward side beyond the setback line will drastically affect the coasts.

CMZ IV: All activities in the coastal zones of the island territories will be based on the ICZMPs, "which fact will be determined in each case by the concerned State/ Union Territory Coastal Zone Management Authority".

Setback Line: The setback line is a demarcation based on the vulnerability of the coast to natural and manmade hazards. The vulnerability of the coast will be mapped on six parameters: elevation, geomorphology, sea level trend, horizontal shoreline displacement, tidal ranges and wave heights. The level of protection to be provided by the setback line will correspond to protection from coastal hazards with a 1% probability of occurrence in any given year accounting mean sea level rise and horizontal shoreline displacement in the next 100 years. In simple terms, it is that distance from the sea up to which there is a risk of incursion of water, resulting in loss of and damage to life and property. The setback line will be notified in one or more stretches by the Ministry of Environment and Forests. The delineation will be carried out by notified scientific institutions specialising in earth surveys and mapping. The Swaminathan Committee had recommended seven parameters. There is no timeline for demarcation of the setback line. There is no provision for appraisal or review of the setback line at periodic intervals. Periodic review of the setback line is essential as there is a possibility of major coastline changes (greater than predictions) due to construction of ports or harbours, or even due to unpredictable climate change as a result of global warming.

Removal of No Development Zone: A 500 metre no development zone was provided in the CRZ notification where no activities could be undertaken. This was later reduced to 200 metres. The CZM 2007 has removed even this minimum protection opening up the coast to the danger of planned activities.

Implementation Framework

Institutional Mechanisms

National Board for Sustainable Coastal Zone Management (National Board/ NBSCZM): A National Board consisting of 31 members based on the composition given under Appendix IV will be constituted to provide policy

advice to the Central Government. While the Ministry could carefully define such terms as "professional" and "expert", it has totally failed to deal with the functioning of the Board. There is not even a hint of how this large Board is to function.

State/ Union Territory Coastal Zone Management Authorities: The already overburdened State/ Union Territory Environment Appraisal Authority set up under the Environment Impact Assessment Notification 2006 (EIA 2006) will undertake the additional regulatory functions under this notification as State/ Union Territory Coastal Zone Management Authority. These authorities should invariably obtain scientific advice from the State/ Union Territory Environmental Expert Committee set up under EIA 2006.

Shortcomings in the implementation framework

Clearance of activities planned under ICZMP: There is no provision for a clearance or review procedure for activities that may be planned under the ICZMPs once they are in place. Although there will be broad plan in place based on which activities will be undertaken, a case by case review of proposal for development activities is essential in order to ensure that they are environmentally sustainable.

Monitoring: There is no system of regular monitoring of proper implementation of the notification. Neither is there any provision of monitoring of activities on the coastal areas, a major lapse which led to numerous violations of existing CRZ Notification. The implementation of the ICZMPs by the State/ Union Territory is to be monitored by the concerned District Magistrates. The object behind such a provision seems to be the independence of the monitoring authority. Keeping in mind the need to conserve and protect the environment, it is best that an independent authority is established specially for monitoring compliance of various environmental legislations and rules. This authority should preferably be on the lines of the office of the Comptroller and Auditor General, giving it a constitutional basis. This will ensure the independence of the monitoring agency and the best possible results towards environment protection.

Timeframe: There is no time frame or deadline envisaged for completion of various processes under the notification including determining the setback line and preparing the ICZMPs.

Violations and penalties: Penalties for violation of norms of coastal management is absent in the notification. Strict penalties of offence should be provided for and implemented meticulously in order to better protect the environment.

Traditional Rights and Livelihood

There is no recognition of the traditional rights of the coastal, especially fishing communities. Livelihood activities like fishing does not find place in the notification. The provisions concentrate only on developmental activities. This threatens the livelihood security of the fishing communities. Appendix V, which lists the activities permitted on the seaward side of the setback line does not contain dwelling units and other minor infrastructures of fishing communities requiring shoreline access. This is in blatant disregard to the rights of the fishing community.

Coastal Management Zone Notification 2008

A new draft notification titled Coastal Management Zone Notification 2008 (henceforth referred to as CMZ 2008) was officially released by the Ministry of Environment and Forests in May 2008 dated 1 May, 2008. In a week's time, an amendment to this draft was made dated 9 May, 2008. At the time of release, only a text of the notification was available on the website of the Ministry and not the Official Gazette copy. The only place it was published was the Ministry website and that too in English. India has a long coastline with diverse interest groups, chiefly fishing communities, inhabiting them. It is blatant disregard and disrespect to the rights and interests of large number of people to expect them to read a notification concerning them, published in a language they are not well versed with, and submit their comment within 60 days. This procedural incongruity aside, this new draft made significant changes to the provisions in CZM 2007. These changes, which are further regressive in nature, have been traced below.

Institutional Mechanism

The new draft made it clear that the NBSCZM will not have any regulatory functions. The functional details remained unattended to, as the case was under the CZM 2007. The advisory role of the State/ Union Territory Environmental Expert Committee was removed.

Amendment to the Notification

On 9 May, 2008, just after a week since the original notification, an amendment was to include "green-field airports" to the list of permitted activities. Even before the notification came into effect, an amendment to accommodate developmental activities was made. This move is viewed as making provision for the proposed Navi Mumbai airport.²⁶ The most perplexing aspect of the amendment is the inclusion of a paragraph on green-field airports in the preamble. What is the need to mention only one out of the

²⁶ Vivekanandan, *supra* n 21

numerous permitted activities in the preamble? This is a question that eludes reason.

CMZ I

The ecologically sensitive areas will be identified with the technical assistance of the National Institute for Sustainable Coastal Zone Management (NISCZM). The NISCZM will also help the State/ Union Territory in preparing the ICZMP. It is also mandated to demarcate the setback line based on prescribed parameters. The notification does not contain so much as a word on the establishment and functioning of a body vested with such highly important functions. It only makes one wonder if the Government is serious about conservation efforts. At no rate can a blunder of this kind be an excusable human error.

There shall be no restriction on fishing and other related activities in CMZ I areas. What CMZ 2008 fails to do is to recognise the difference between traditional methods of fishing and fishing with the help of modern equipments and the impact thereof.

CMZ II

The management scheme of this category has been completely overhauled. Activities in coastal Municipalities or Corporations and coastal Panchayats with a population of density of more than 400 persons per sq km will be based on the ICZMP prepared as per the guidelines in Appendix V and approved by the Central Government. This ICZMP is applicable only for activities on the seaward side of the setback line. Whereas, the landward side is free from additional restrictions under this notification. Activities in economically and socially important areas will be based on the approved ICZMPs. In case of strategically important areas, the ICZMPs will be prepared by the Ministry of Defence and submitted to the Ministry of Environment and Forests. Such plan would be accorded clearance by a Special Committee constituted by the Central Government.

CMZ III

A list of permitted and prohibited activities and the agencies responsible has been drawn up and given under Appendix VI on the basis of which CMZ III areas will be managed. Fishing by traditional communities, dwelling units and other infrastructure have been recognised.

Setback Line

Appendix I containing the guidelines on the process of determining the setback line has seen considerable regressive changes. The parameters for mapping the vulnerability of the coast have been reduced to four. The important criteria of tidal ranges and wave heights have been excluded. We

need not go into scientific details to understand the defect in the process proposed for demarcation. Technical guidelines for demarcation will be issued by the Ministry of Environment and Forests. There is no timeframe for completion of any of these processes.

Conclusion

In fine, the Government seeks to remove all restrictions on activities on the coasts opening them up for non-coastal activities. Even ecologically sensitive areas do not have minimum and adequate protection. In fact, they have been made more vulnerable. By leaving management/ implementation mechanisms incomplete, and not providing penalties for violations, the notification protects "activities" and not environment. The vital importance of conservation of coastal resources necessitates a comprehensive and objective law. Incomplete and half-hearted attempts will only further the damage caused to the already crippled state of environment. Further, the agencies responsible for undertaking the necessary processes, implementation and monitoring should be constitutionally established thereby ensuring absolute independence.

Post Script

The perils of having a law as the CMZ Notification 2008 were highlighted in various works raising objections to and criticising the provisions of the notification. The Ministry of Environment and Forests constituted a four-member Expert Committee under the Chairmanship of Prof. M. S. Swaminathan in order to review the suggestions and objections received by it. The Expert Committee submitted its recommendations on 16-6-2009 recommending that the notification be allowed to lapse as per the provisions of the Environment Protection Act, 1986 which provides that a notification will lapse if it is not finalised within 365 days from the date of issue. The Government accepted the recommendation and the notification lapsed on 22-7-2009 and the CRZ notification, with all its 25 amendments, continues to be in force. Subsequently, the Ministry has decided to take consultations with various stakeholders in order to strengthen the existing law, the CRZ Notification, 1991.²⁷ It remains to be seen whether the Government will make a genuine effort in conservation of the coastal ecology.

²⁷ Press Note on Lapse of Coastal Management Zone (CMZ) Notification, 2008 by the Ministry of Environment and Forests, <http://www.envfor.nic.in/divisions/iass/2009-07-24%20Press%20Release%20-%20CMZ%20Lapse.pdf>, last retrieved on 20-10-2009

Chiteisri Devi *

Human beings share this Earth with millions of other living beings. We are just one species amidst other animals, plants and micro organisms – a web, in which is each and every organism is dependent - all connected to the other in a complex yet delicate structure that supports life. This wide range of life-forms and the habitats it resides in is called biological diversity or bio-diversity.¹

For any ardent nature lover, giving a precise definition to bio-diversity is not an easy task. Although, biological diversity is the new buzzword for opening up avenues in international funding and global travel of the merciless hunt for natural resources, aside from the fashionable ornamentation that any new environmental term acquires, the term has a much more profound meaning.

It is the base of all that it takes to be human; agriculture, science and technology, cultural diversity ...even wisdom. For it is in living within this complex explosion of life that we have developed into what we are. It is the stuff of which nature is made, a celebration of life itself, and its components are the millions of other species with which we share the Earth.²

E.g. Let us examine our eating habits, not from an individual but from a wholly global perspective, *before* the era of globalisation made every type of food available in a supermarket!

If the Earth is divided into six zones i.e. Polar, Temperate and Tropical from the North Pole to the Equator and then Tropical, Temperate and Polar from the Equator to the South Pole - we see a distinct pattern in the traditional eating habits and culture of its people.

The extreme temperatures at the polar and temperate regions reduce the diversity of the flora and fauna to a bare minimum. Therefore Man's food as a being in the larger food chain is that of the largest predator, carnivorous with consumption of that of almost only meat and those with high calorific value. In the tropics, the diversity and environment allows for a variety of options – fruits, vegetables, tubers, rice and cooked food and meats which can be easily availed.

India is a classic example of this bio-cultural diversity. The traditional diet of our multifaceted ethnicities is based on the availability and variety of species – plant and animal of that region.

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¹ Ashish Kothari, UNDERSTANDING BIODIVERSITY LIFE, SUSTAINABILITY AND EQUITY TRACTS FOR THE TIMES/11, Preface at pg. xi

² Ibid.

E.g. Coastal regions use coconut in almost every form – as a food-base, oil, treatment for ailments, its covering is used in house-hold products and the tree is a crop resource – even its existence is considered sacred because of the highly potent dependence and use by the populations of that region.

Fish is a staple diet in those regions where rivers play a key role to livelihood, despite the abundance of other 'vegetarian' options available.

In desert and semi-arid areas, millets make an excellent substitute for rice and pulses in nutritional requirements and have thereby become the regular diet in those regions to compensate for the unsuitable conditions to cultivate rice and wheat.

A more subtle illustration would be the quantity of rice per meal. In the North, where wheat and rice are abundantly available, rice is eaten in smaller quantities and usually once a day whereas in the South, rice and its variants are consumed in larger quantities and for more than one meal a day.

The base to all these examples is what needs to be examined here – our eating habits, festivals, dress, patterns of livelihood, in short our culture – the foundation of our being has actually evolved from bio-diversity. This is because Bio-diversity has determined the resources made available to us, the use and production of which lead to economic and social progress which made man into the superior being he is today.

However, the deeper question here is – Whether Man as a being, is superior to all others that exist on our planet? It is in answering this very question that we can come to realise the significance of this academic discourse in bio-diversity.

A concern for biodiversity has profound implications for the way we as human beings view the world, the way we go about meeting our needs and the way we 'develop' to improve our 'standard of life'. Ancient cultures were often acutely aware of these implications; many tribal and non-tribal farming cultures still are.³ As modern, westernised people, many in urban India have lost this concern and are content with the 'push' for more and more we have been ingrained to believe is what we want.

However, anyone who has lived close to Nature will testify that this is a greatly impoverished existence and yet many of those who continue to live in proximity to nature, yearn for urban life. This paradox has come about merely because of the transformation of our cultural lives – that which can be attained only by the ruthless exploitation of every resource available.

³ Supra note 1

Another and more apt way to explain the phenomenon of biodiversity would be this quote – when somebody once decided to describe what the term ‘Wild’ could mean –

“...the entire sensuous and living matrix to which we as a species belong: human bodies, human senses and sensibilities, other living creatures, ecological processes and landscapes, Earth, Water and Sky.”

A highlight of the above quote is that – ‘it is the living matrix to which we as a species belong’... because as we look around us, it is evident that we have forgotten we are a part of this phenomenon called ‘biodiversity’. It is strange but true that we ignore the value it holds for us, as we are able to destroy not only something so ancient, but something so vital for our own existence. It is manifest, as at least a thousand different species of plants are rooted out of forests to be powdered, stewed or squished into an array of lotions and potions of great value. Animals are hunted, fish are ‘over-fished’ and even Water, that most precious substance is overused, abused and turned into a lifeless ‘thing’.

Therefore, ‘Biodiversity’ is short for ‘biological diversity’ – simply put, *bio* is life and *diversity*, its variety. It includes the millions of plants, animals (wild or domestic), micro organisms, the genes they contain and the ecosystems of which they are a part.

It is important because Man, as an organism and a single species, is entirely dependent on biodiversity for his sustenance. However our growing numbers are perceptibly disabling the planet and its biodiversity like a disease – and like any human disease there are four possible outcomes –

1. Destruction of the invading disease (humankind!)
2. Chronic infection (a polluted, abused and unsustainably developed Mother Earth)
3. Destruction of the host (our planet) or
4. *Symbiosis (what is the ‘ideal’)*⁴

At the outset, thus let us appreciate that there is a law, despite its shortcomings, in order to protect whatever is understood to be biodiversity.

⁴ James Lovelock, THE REVENGE OF GAIA, Foreword, at pg. xv. James Lovelock is a renowned British Scientist who in the early 1970s postulated the ‘Gaia Theory’ which sees the Earth as a self regulating and evolving System and has formed the basis for conventional wisdom into Earth System Science.

Definition:

The Indian Biodiversity Act, 2002 (hereinafter referred to as ‘the Act’) defines “biological diversity” in –

Sec. 2 (b) as “the variability among living organisms from all sources and the ecological complexes of which they are part, and includes diversity within species or between species and of eco systems.”

This paper shall discuss the following questions in lieu of the Act, vis-à-vis a general understanding of biodiversity, its meaning, use and especially a vital missing link for its protection

Tracing the genesis of the legal frameworks (internationally and nationally) of bio-diversity.

The provisions of the act – what it contains and where it fails, and lastly

The challenge it poses for the road ahead.

I. Genesis, Development and status QUO of the Law on Biodiversity:

Global attention was first directed towards the Environment in 1972, at the Stockholm Conference on Human Environment. The lesser known Nairobi Declaration of 1982 followed a decade later, which reiterated the principles of the Stockholm Convention and pledged to continue in that direction. It was only in 1992, following the Rio Declaration of the United Nations Conference on Environment and Development (popularly known as the Earth Summit) – that a codified international law on Bio-diversity emerged – The Convention on Biological Diversity(CBD) 1992.

Its main objectives are –

1. Conservation of Biological Diversity.
2. Sustainable use of its components;
3. Fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.⁵

It is interesting to note in an obvious conclusion which may be drawn, that Environmental legislation in India often comes as a response to its international commitments – whether it is the introduction of several new legislations like the Wildlife Protection Act, 1972 or the 42nd Amendment to

⁵ Article 2, Convention on Biological Diversity, 1992

the Constitution in 1976 as a response to the Stockholm Convention or the Biological Diversity Act, 2002, the long – awaited Scheduled Tribes and other traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 that follows its Rio and Johannesburg Summit commitments.

While this clearly exhibits India (as a contracting party to all these Conference's) keenness to abide by international norms, one has to wonder why – in a country as 'rich' and 'developed' in natural resources as we are, protection of our environment by means of law needs the necessary 'push' from the international framework.

The failure of our Government (until recently), especially the parliament to recognise the indigenous, customary principles of law in environment protection that was, has and always been an integral part of diverse India – by local communities and tribals is a sad, but apparent cause for the widespread destruction of biodiversity in India.⁶

WHY understanding 'Bio-diversity' is important from a legal aspect

It is essential that law and policy makers know and understand the phenomenon of biodiversity, in order to effectively protect and conserve Mother Nature. Failing to do so, can result in further harm caused. An example of where implementing the law of protecting wildlife directly resulted in damage to the fragile ecosystem of that area, is illustrated here.

The Kaldeo National Park, better known as the Bharatpur Bird Reserve is a small wetland harbouring over 350 species of birds. In 1980, its status as a sanctuary was upgraded to that of a National park. Thus, according to the Wildlife Protection Act of 1972 – Grazing, understood to be harmful to the ecosystem – was banned. In one of the worst incidents of conflict known, seven villagers were killed protesting against this ban.

A point to consider is – had an understanding of the biodiversity component of the wetland reserve been realised by the law, especially the symbiotic relationship (Mutualism) shared between buffaloes and migratory water birds – such a conflict could have been avoided. A long term study by the Bombay Natural History Society later proved that the ban had adversely impacted on the wetland – it could turn into grassland instead, and in desperation, park authorities had to allow grass-cutting by the villagers!⁷

⁶ Ashish Kothari, UNDERSTANDING BIODIVERSITY LIFE, SUSTAINABILITY AND EQUITY TRACTS FOR THE TIMES/11, Protected Areas, People, and Participatory Management, at Pg. 28
⁷ Ashish Kothari, UNDERSTANDING BIODIVERSITY LIFE, SUSTAINABILITY AND EQUITY TRACTS FOR THE TIMES/11, Protected Areas, People, and Participatory Management, at Pg. 32

II. Provisions of the Act – an analysis:

The Indian Biological Diversity Act, 2002 is aimed directly at achieving the CBD objectives.⁸ Some of its key provisions are:

1. Prohibition of transfer of genetic material outside the country without specific approval of the Indian Government;⁹
2. Prohibition on anyone claiming an IPR, such as a patent on any traditional knowledge of a biological resource without the permission of the Indian government;¹⁰
3. Regulation of Collection and use of biodiversity by Indian nationals, while exempting local communities of such restrictions;¹¹
4. Measures to conserve and sustainably use biological resources;
5. Provisions for the local communities to have their say in the use of their resources and knowledge, and to charge a fee for this;¹²
6. Setting up of Biodiversity Management Committees (BMC) at the local levels, State Biodiversity Boards (SBB) at state level, and a National Biodiversity Authority (NBA).¹³
7. Setting up of National, State and Local Biodiversity Funds, to be used to support conservation and benefit-sharing.¹⁴

The Act is vast - consisting of XI Chapters with 65 Sections. There are 24 Rules with the respective Forms prescribed under the Biological Diversity Rules, 2004. It presents a clear framework through which the implementation of its provisions is proposed. It is of a three-tier framework – The National Biodiversity Board (NBA) at Chennai, State Biodiversity Boards (SBB) at every State and Biodiversity Management Committees (BMC) at local levels. Their respective roles and responsibilities are further envisaged in the Rules prescribed.

After a single reading of the Act, and its critical evaluation, it is evident that it fails on a key point – granting community control of biological diversity. It openly recognises Bio-diversity as a commodity

⁸ Preamble, The Biological Diversity Act, 2002

⁹ Section 3, The Biological Diversity Act, 2002

¹⁰ Section 6, The Biological Diversity Act, 2002

¹¹ Section 7, The Biological Diversity Act, 2002

¹² Section 41(3) read with Section 44 of the Biological Diversity Act, 2002

¹³ Chapter X, Chapter VI and Chapter III of the Biological Diversity Act, 2002 respectively.

¹⁴ Section 27, Section 32 and Section 43 of the Biological Diversity Act, 2002 respectively.

which can be bought or sold, open to patents and 'sui generis' rights on indigenous knowledge.¹⁵

Overreaching economic considerations clearly outweigh the notions of conservation, as the Act assumes, while giving easy access to the Indian Corporate sector to IPRs of biodiversity that it acts responsibly towards the environment and local communities.¹⁶

The most threatening provision is that of setting up 'Bio-diversity Heritage Sites' (Chap IX). Once declared by the State Government, the local communities do not have any option but to be evicted from such an area. This completely ignores the rights of the communities (esp. Adivasis) who are very much a component of the intricate bio-diversity of that area. They being a part of the intimate interaction between Man and Nature sustain their livelihoods and enhance the biodiversity altogether.

E.g. When the local government started to distribute housing colonies of brick, cement and tiles in the tribal areas of East Godavari, people stopped harvesting the traditional Nuluka grass used to thatch roofs. Its regular harvesting would encourage its growth, but has since disappeared due to the existence of tiled houses. It is this kind of subtle relationship which the Act ignores, upon reducing everything to market value.¹⁷

Also, by allowing Patents and accepting the IPR regime, it immediately contradicts the CBD objective of 'benefit sharing'. As we are aware, Patents by its very nature give enhanced and exclusive control of resources or knowledge to an individual company, group or community.

In the structure set up by this Act, the National and State Authorities are endowed with huge amounts of decision-making and control. This centralised structure is marked with a potential for authoritarian misuse. The genuine lack of power to local communities is seen when we examine the functions of the BMC, which is the lowest body – it only maintains a Register and consults with the higher bodies.¹⁸ People and communities are neither stakeholders, nor given an account of how transparent the funding process is – in this entire mechanism.

Another important point to consider is that people are not empowered to approach the local courts in any appeal against the BMC,

¹⁵ Dr. Sagari Ramdas & Dr. Nitya Ghotge, THE BIOLOGICAL DIVERSITY ACT OF INDIA AND PEOPLES DIVERSITY REGISTERS: SOME QUESTIONS AND CONCERNS

¹⁶ Ibid

¹⁷ Ibid

¹⁸ Chapter X, The Biological Diversity Act, 2002

SBB or NBA.¹⁹ An appeal lies directly to the High Court - establishing a logistical difficulty for local communities to overpower bureaucratic autocracy in remote pockets of our country.

III. Challenges Ahead:

As above mentioned, a stage of 'Symbiosis' needs to be achieved. This can be done only by ensuring:

1. Ecological Security (maintaining the natural habitat, species and ecosystems) and
2. Livelihood Security. (Sustaining the livelihoods of all those directly dependent on biodiversity in Protected Areas. (PAs)

Granting community ownership and rights is the primary means of doing so – and it is hoped that the implementation of the New Forest Rights Act of 2006 is able to overcome this major lacunae of the Biological Diversity Act, 2002. Despite many attempts by civil society and Environmental groups to amend the law right from its drafting stage – the Act and Rules still stand in a manner where it is evident that economic considerations outweigh aiding Community-based Conservation.²⁰

As a law student, it is a personal opinion that many statutes – Environment Protection Act, 1986, Wildlife Protection Act 1972, Biological Diversity Act, 2002, Plant Varieties and Farmers Rights Act, 2001 Forest Conservation Act, 1980, the new Forest Rights Act, 2006, various State Notifications and Policy decisions in administration laws – often overlap, maybe overstep each other.

While it is submitted that, apart from using pure logic and common sense, this statement cannot be substantiated – I am confident because it is a glaring fact that one statute cannot be analysed in isolation, and when there are so many implemented in the hands of a small few, it must be asked – where does its jurisdiction begin and more importantly where does it end?

¹⁹ Section 52, The Biological Diversity Act, 2002

²⁰ Vanaja Ramprasad: NOTHING FOR LOCAL COMMUNITIES: ECONOMIC CONSIDERATIONS OVERRIDE CONSERVATION PRIORITIES IN INDIA'S BIODIVERSITY ACT

Clean Development Mechanism and Its Implementation in India

Pradnya Parihar*

Over the past decade, as the evidence of climate change became clearer and better understood, a strong international movement for action has emerged. It was in this process that in June 1992, more than 180 countries signed The United Nations Framework Convention on Climate Change at Rio de Janeiro, Brazil, informally known as the Earth Summit. The treaty intended to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."¹

The Convention outlined the need to reduce greenhouse gas emissions as a global response to climate change. One of the most important principles of the Treaty is the concept of "common but differentiated responsibilities"², under which the parties agreed that they have a common responsibility to reduce Green House Gas (GHG) emissions, but the quantum of responsibility would differ and would primarily rest with the developed, industrialized countries.³

The Kyoto Protocol- A Brief Summary

The Kyoto Protocol, which entered into force on 16 February 2005 establishes legally binding commitments for the reduction of four greenhouse gases (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride), and two groups of gases (hydrofluorocarbons and perfluorocarbons). Under Kyoto, industrialized countries agreed to reduce their collective GHG emissions by 5% compared to the year 1990⁴. The year 1990 was chosen as a baseline because that was the year when the UN first launched negotiations on climate change. As of 2008, 183 countries have ratified the protocol. The countries are to reduce their GHG emission primarily through domestic action, but some other "flexible mechanisms" have also been provided to meet the

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¹ Article 2, The United Nations Framework Convention on Climate Change

² Article 3, The United Nations Framework Convention on Climate Change.

³ Preamble to the UNFCCC, "Noting that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs,"

⁴ Article 3.1 "The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012."

reduction targets. These are: Joint Implementation (JI), Clean Development Mechanism (CDM) and Emissions Trading (ET).

Clean Development Mechanism (CDM)

The Kyoto Protocol applies to industrialized nations only. Developing countries, including India and China, are not required to commit to reductions because their per-capita greenhouse gas emissions are much lower than those of developed nations. Many developing countries make use of older, unclean technologies or simply lack the infrastructure and policies to develop environmentally-friendly alternatives. As such, by not including such countries, they will continue to rely on these older technologies as their economies and populations grow.

Clean Development Mechanism (CDM) is a mechanism under the Kyoto Protocol for promoting technology transfer and investment from industrialized countries to the developing world for projects focused on mitigating emissions of greenhouse gases⁵. Under this mechanism, countries which have set themselves an emission reduction target under the Kyoto Protocol can contribute to the financing of projects in developing countries which do not have a reduction target. The project should reduce the emission of greenhouse gases by contributing to the sustainable development of the host country. The achieved emission reductions can be used by the industrialized country to meet its reduction target.

CDM-The Indian Scenario

India is currently the world leader in development of Clean Development Mechanism (CDM) projects. Due to the effective operation of the Indian Designated National Authority for approval of CDM projects, India continues to lead in terms of number of registered CDM projects, accounting for over 35% of projects, with an emission reduction potential of more than 300 million tons of CO₂. Some examples are⁶:

⁵ Article 12, The Kyoto Protocol to The United Nations Framework Convention on Climate Change

⁶ See <http://cdmindia.unfccc.int> Retrieved on 22-01-2009

CDM initiatives in India- Some Examples

Project Name & Location	State	Sector	Status
1. Municipal Solid Waste processing (MSW) in the city of Vadodara, India at Vadodara Bye Pass Highway, Vadodara, Gujarat	Gujarat	Solid waste	Approved
2. Municipal Solid Waste processing (MSW) in the city of Pune, India at Urli Dewanci, Pune in the state of Maharashtra	Maharashtra	Solid waste	Approved
3. 1.25 MW Wind Power Project by Hindustan Gum & Chemicals Ltd., Gujarat	Gujarat	Renewable Energy	Approved
4. GHG emission reduction through waste gas based steam and power generation at Jamshedpur in the state of Jharkhand	Jharkhand	Energy Efficiency	Approved
5. 100 MW Wind Power Project by RS India Wind Energy Pvt. Ltd. at Matrewadi & Varekrwadi, Satara district in Maharashtra	Maharashtra	Renewable Energy	Approved

CDM and Sustainable Development

India signed and ratified the Protocol in August, 2002⁷. Since India is exempted from the framework of the treaty, it is expected to gain from the protocol in terms of transfer of technology (through CDM) and related foreign investments. This will help achieve the principle of Sustainable Development as outlined in the Protocol. But what exactly is "Sustainable Development"? The Government of India has constituted the National Clean Development Mechanism (CDM) Authority under the Ministry of Environment and Forests for implementation of CDM projects. The NCDMA has explained "Sustainable Development" and indicators of Sustainable Development as follows:⁸

"It is the prerogative of the host Party to confirm whether a clean development mechanism project activity assists it in achieving sustainable development. The CDM projects should also be oriented towards improving the quality of life of the poor from the environmental standpoint."

⁷ Kyoto Protocol: Status of Ratification" (PDF). United Nations Framework Convention on Climate Change (2008-10-16). http://unfccc.int/files/kyoto_protocol_of_ratification/application/pdf/kp_ratification.pdf, Retrieved on 22-01-2009

⁸ See <http://cdmindia.unfccc.int> Retrieved on 22-01-2009

It further states "Following aspects should be considered while designing CDM project activity:

- 1 **Social well being:** The CDM project activity should lead to alleviation of poverty by generating additional employment, removal of social disparities and contribution to provision of basic amenities to people leading to improvement in quality of life of people.
- 2 **Economic well being:** The CDM project activity should bring in additional investment consistent with the needs of the people.
- 3 **Environmental well being:** This should include a discussion of impact of the project activity on resource sustainability and resource degradation, if any, due to proposed activity; bio-diversity friendliness; impact on human health; reduction of levels of pollution in general;
- 4 **Technological well being:** The CDM project activity should lead to transfer of environmentally safe and sound technologies that are comparable to best practices in order to assist in up gradation of the technological base. The transfer of technology can be within the country as well from other developing countries."

Social well being: A simple analysis of this criterion will clarify that social well being is a vague concept. CDM projects primarily involve technology transfer and it is doubtful whether they have the potential to "alleviate poverty, removal of social disparities and contribution to provision of basic amenities to people leading to improvement in quality of life of people." For example it is in news that diesel and petrol will be mixed with 10% bio-fuel⁹. The production and procurement of bio-fuel is being clubbed with CDM to earn carbon credits. How would such a policy conform to the standards stipulated above? It may lead to reduction of pollution levels and consequently some amount of environmental well being, but it may also involve diversion of crop land and rise in food prices, thus violating the other requirements. Some benefits will certainly spill over, but whether they will actually fulfill such a wide ranging criteria remains illusive. Moreover, how is it to be calculated or measured whether the CDM project will lead to "social well being" within the meaning of the above definition?

Environmental well being: The third criterion of environmental well being begins with the words "This should include a **discussion** of impact of the project activity". This too remains a vague and inadequate concept. A **discussion** of impact of the project activity is hardly of any consequence. "Resource sustainability, resource degradation and bio-diversity friendliness" can be assessed only through a through scientific research of the environment

⁹ Hindustan Times, Sakaal Times, DNA Newspaper

impact assessment of the project activity. The NCDMA must refine this requirement by putting an obligation on Project Developers to prepare thorough Environmental and Social Impact Assessment reports not only before the project is launched, but also afterward so as to carry out a periodical review of the project benefits. This should answer the following questions:

- 1 Does the project involve diversion of biomass from the core area?
- 2 Does it increase the bio-diversity of the area?
- 3 Does it involve the local population?
- 4 Does it benefit the local population?

Technological well being: The last criterion of technological well being is in consonance with the current trends of CDM. However, an up gradation of the technological base can take place not only through the transfer of safe and sound technologies (as stipulated in this criteria), but also through encouraging scientific innovations in this field at the national and local levels. For example An industrial unit or a company that wishes to get carbon credits may finance an environment friendly innovation or may offer scholarships to local students who propose to take such activities. This would encourage both technological innovations and education, thus making the concept of sustainable development more meaningful and wide ranging.

Functioning of the Project

Under the Kyoto Protocol an industrialized country aiming to get credits from a CDM project should obtain the consent of the developing country hosting the project (Host Country) regarding the sustainability of the project. However, there is no reciprocal obligation on the host country to submit any scientific evidence to the Executive Board of the UNFCCC based on research findings to prove that a project will lead to sustainable development. Although the projects are scrutinized and validated by an independent third party agency, the host party must also be required to submit a report of how it arrived at the decision that the project will lead to "real, long and measurable sustainable development". This lacuna must be rectified as early as possible so as to prevent spurious projects from being endorsed by the host country.

The "Additionality" criteria¹⁰

According to the Kyoto Protocol, a CDM project is additional if "Any such project provides a reduction in emissions by sources, or an enhancement

¹⁰ See <http://cdmindia.nic.in/index.htm>, Retrieved on 22-01-2009

of removals by sinks that is additional to any that would otherwise occur."¹¹ The NCDMA requires the project proposal should establish the following in order to qualify for consideration as CDM project activity¹²:

- A. Emission Additionality: The project should lead to real, measurable and long term GHG mitigation.
- B. Financial Additionality: The procurement of Certified Emission Reduction (CERs) should not be from Official Development Assistance (ODA)

In simpler words the additionality criteria is to avoid giving credits to projects that would have happened anyway ("freeriders") i.e to ensure the project reduces emissions more than would have occurred in the absence of the project. There are currently two rival interpretations of the additionality criterion:

What is often labeled 'environmental additionality' states that a project is additional if the emissions from the project are lower than the baseline. It generally looks at what would have happened without the project. In the other interpretation, sometimes termed 'project additionality', the project must not have happened without the CDM.

A number of terms for different kinds of additionality have been discussed, leading to some confusion. Many investors argue that the environmental additionality interpretation would make the CDM simpler. Environmental NGOs have argued that this interpretation would open the CDM to free-riders, permitting developing countries to emit more CO₂ while failing to produce emission reductions in the CDM host countries. For example nearly nine lakh domestic consumers of Cuddalore and Villupuram districts of Chennai will soon be covered under the Bachat Lamp Yojana (BLY), a scheme for promoting energy efficiency by replacing incandescent bulbs with compact fluorescent lamps (CFLs)¹³ under CDM. A new solar power policy announced by Gujarat government is aimed at transforming the state into an "integrated solar generation hub" of the country under CDM¹⁴. It offers several incentives to solar power generators for promoting clean energy generation in the state. In both the above examples, the initiative is being taken by the Government and if the implementation is through the Government agencies, then the project is obviously violative of the "Financial Additionality" criteria laid down by NCDMA, since the project would invariably involve Official Development Assistance (ODA). If the

¹¹ Article 6 (c), Kyoto Protocol to The United Nations Framework Convention on Climate Change

¹² See <http://cdmindia.unfccc.int> Retrieved on 22-01-2009

¹³ See <http://www.hindu.com/2009/01/14/stories.htm>

¹⁴ See <http://www.indiaenvironmentportal.org.in/content/solar-power-policy-2009-gujarat>

Government plans to implement the Project through Public Private Partnership (PPP), it would still not stand the test of "Financial Additionality", since that too would ODA.

The ambiguity of the additionality criteria is the major reason that India has the maximum number of rejections – i.e., those projects that approached the UNFCCC for registration but were not approved¹⁵. Out of 26 rejected projects till date, 14 projects are Indian¹⁶. Analysts in the sector point out that most of the rejections are primarily driven by the company's inability to prove the "additionality criteria" for the project

It is never possible to establish with certainty what would have happened without the CDM or in absence of a particular project. The guidelines that have been designed to facilitate uniform assessment¹⁷ set by the CDM Executive Board for assessing additionality need to be clarified and refined so that the projects are "additional" both on paper and in practice. This is a very difficult task, since Project Additionality is in itself a very difficult concept, difficult to define and measure. One wise solution would be to involve member nations to share their experiences, the difficulties faced by them and a common consensus on all the possible solutions to mitigate this problem.

CDM to be Supplemental to Domestic action

With respect to CDM, Article 6.1d) of the Kyoto Protocol states

"The acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3."

With respect to emissions trading, Article 17 of the Protocol states:

"Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that Article."

The above rules were framed to prevent industrialized countries from making unlimited use of CDM. However the current trend is that the member nations are concentrating solely on CDM since it is a far easier means to meet

¹⁵ <http://www.hindu.com> Mamuni Das, New Delhi, Sept. 5. "They are two projects of Bajaj Auto, Radhanagari hydel project, Karnataka-based Sheshadri Iyer mini hydel project, Jaiprakash Associates's project to increase the additive blend in cement production, Sterlite Industries's project to generate power from recovered waste heat, Lafarge India's blended cement project, Vikram Cement's effort to improve energy efficiency, Gujarat Alkalies and Chemicals Ltd's fuel switching project, Rajashree Cement and two of Dalmia Sugars".

¹⁶ Ibid

¹⁷ Tool for the demonstration and assessment of additionality (Version 03), UNFCCC CDM EB, EB 29, Additionality tool CDM Executive Board

their reduction commitments. The Protocol had intended to achieve GHGs reduction through radical transformation of industries, transportation, fossil fuel use etc. The Parties were to enact effective environmental legislation to achieve these objectives¹⁸. In fact, very few countries have framed national legislation to mitigate climate change as required under the Protocol. Instead, in what may be termed as outright violation of the Protocol, some countries have framed national policies which set completely different and divergent targets from those stipulated under the Protocol. In Canada, for example The Government announced a plan named "Turning the Corner", which set greenhouse gas reduction targets to a different target - 20 percent below 2006 levels by 2020¹⁹. Meeting this goal would leave Canada 39 percent off target with the Kyoto Protocol in 2012 and would not achieve the Kyoto target until 2025, if at all. Canada's Environment Minister Mr. Baird, while defending this approach said "Carbon trading and the establishment of a market price on carbon are **key parts** of our Turning the Corner plan to cut Canada's greenhouse gases an absolute 20 percent by 2020." Another example is that of The Netherlands which aims to achieve half of its required emission reductions by CDM and Joint Implementation (JI). It treats Dutch companies' purchases of European Emissions Trading Scheme allowances from companies in other countries as part of its domestic actions²⁰. The Canadian and The Netherlands case is a clear example of how carbon trading has become so lucrative as to dissuade nations completely from their main objectives.

Kyoto Protocol: Fundamental flaws

The Kyoto Protocol is fundamentally flawed and some of the most important points of controversy are

Penalties for Non-Compliance / Withdraw

Article 27 of the protocol states

"At any time after three years from the date on which this Protocol has entered into force for a Party that Party may withdraw from this Protocol by giving written notification to the Depositary. Any such withdrawal shall take effect upon expiry of one year from the date of receipt by the Depositary of the notification of withdrawal..."

Thus, any country can withdraw from the treaty after ratifying it by simply giving one year's notice. Moreover, no penalties exist for a country

¹⁸ Preamble to the UNFCCC and Article 4.2(a) which states "Each of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change...."

¹⁹ See <http://www.climatechange.org/cases/case-documents/kyoto/canada-minister.pdf>, Copy of the ruling can be obtained from www.ecojjustice.ca.

²⁰ See <http://www.wikipedia.co.in>

that ratifies the Protocol and fails to meet its reduction targets. An important case law that exemplifies this drawback is that of *Friends of Earth Canada v. The Governor in Council* (2008 FC 1183).²¹

Friends of Earth Canada v. The Governor in Council: Friends of Earth Canada is an international environmental NGO. It instituted a case against Canada in TORONTO, Ontario on June 18, 2008. Canada became the first and only country ever to be brought to court for failing to comply with its legal commitments to combat global warming. The main contention of the Petitioners was that government is in violation of the Kyoto Protocol Implementation Act, or KPIA, a federal law enacted on June 22, 2007. The KPIA requires that, "Within 60 days after this Act comes into force and not later than May 31 of every year thereafter until 2013, the Minister [of the Environment] shall prepare a "Climate Change Plan" that describes measures to be taken to ensure that Canada meets its obligations under the protocol. The Environment Minister of Canada John Baird did not prepare any such plan. Instead, the Harper government announced a plan named "Turning the Corner", which set greenhouse gas reduction targets to a different target - 20 percent below 2006 levels by 2020. Meeting this goal would leave Canada 39 percent off target with the Kyoto Protocol in 2012 and would not achieve the Kyoto target until 2025, if at all.

Judgment: The Federal Court of Canada dismissed the petition on ground of justiciability. It held that Parliament, not the courts, must resolve the issue.

The Canadian case is a classic example of what will happen if the Protocol does not frame rules for penalties in case of non-compliance or withdraw. It highlights the urgent need to make the Protocol stringent and binding on member nations. This would considerable negotiations so as to arrive at some rational and binding rules so as to make the Protocol more meaningful.

2) What constitutes an "emissions reduction?"²²

Although all countries that signed the Kyoto Protocol agreed to greenhouse gas "reductions," they did not agree on what exactly is to be counted as "reductions." Some countries, particularly Canada and Russia with their large forests, argued that they should receive credits towards their reduction targets for these "carbon sinks" that absorb greenhouse gases out of the atmosphere from across the globe. Other countries argued that integrating the planting of forests as a part of regular industrial projects should count in the same sort of way. Unfortunately,

²¹ Ibid,

²² See <http://www.climatechangepsea.ca>

no real method exists for quantifying the actual benefits of either proposal, and while some allowances have been made, all of the parties involved claim that they have not yet been credited enough.

3) The greatest concern-Market Forces

"The incongruity of proposing that a brand new financial market might be able to save the world when faith in every kind of financial market is tumbling needs no underlining."²³ A new global market surrounding energy credits is about to emerge, and carbon credits would be traded much in the same way as other commodities such as oil or coffee. Prices would fluctuate with supply and demand, and there would certainly be ample opportunities for profits and losses. We are witnessing the birth of the greatest and most complex commodity market the world has ever seen and no methods for regulating this market have been finalized. By creating a global marketplace out of emissions trading, the treaty would essentially transform the act of reducing emissions into a game of economics and digress from its true meaning of achieving goals that will improve the quality of life on the planet

Conclusion

The Intergovernmental Panel on Climate Change (IPCC) has predicted an average global rise in temperature of 1.4°C (2.5°F) to 5.8°C (10.4°F) between 1990 and 2100.²⁴ It is very unlikely that the IPCC targets can be reached in time using emissions trading and market mechanisms. These mechanisms are inappropriate to the global, qualitative objectives that need to be achieved. CDM and JI should only be used as "complements" to "domestic measures". Even if it were implemented at 100% effectiveness, the Kyoto Protocol is certainly insufficient; both because its reduction targets are low and emissions in both developed and developing countries will continue to rise. Nevertheless, it is a much needed initiative, because it constantly reminds us of the climate crisis we are in, how little we are doing to mitigate its effects and how much more needs to be done.

²³ Green Hope Journal, Volume 7, Issue 2, January 2009, Pg. 18

²⁴ "Executive Summary. Chapter 9: Projections of Future Climate Change". Climate Change 2001: The Scientific Basis. See http://www.grida.no/climate/ipcc_tar/wg1/339.htm, Retrieved on 23-01-2009

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Kyoto Protocol: Criticisms and the Road Ahead

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1. Introduction

Although most scientists agree today that the Earth's temperature has been affected in a perceptible manner¹, the economic and political debate over what to do continues with full force². The countries are still unable to reach a common consensus as to how much and by what method each should reduce green house emissions. The costs of strong and urgent action on climate change will be less than the cost to avoid the impacts of climate change under business as usual³.

The recent and potentially the most effective step that has been taken to control global warming is the Kyoto Protocol. It is an international treaty that binds ratifying nations, with the UNFCCC setting emission caps for each nation. Under the treaty, nations are allotted a specific quota of green house emissions. In 1988, the United Nations Environment Programme and the World Meteorological Organisation jointly established the Intergovernmental Panel on Climate Change (IPCC) to assess the emerging scientific evidence on global warming.⁴ The IPCC conducted extensive research with the help of scientists from all over the world and concluded that burning of fossil fuel being the principal cause of air pollution was primarily responsible for the green house emissions and the resulting climate change threats.

The Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) adopted the Kyoto Protocol on December 11, 1997. The basic objective of the UNFCCC, having a membership of almost 194, was not to reverse greenhouse gas emission levels, but to stabilize them "at a level that would prevent dangerous

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¹ IPCC, 3rd Assessment Report. Climate Change 2001
² James M. Lindsay, "Global Warming Heats Up: Uncertainties, Both Scientific and Political, Lie Ahead", *Brookings Rev.* (Fall 2001), pp. 26-29
³ *The Stern Review on the Economics of Climate Change*, available at <http://www.sternreview.org.uk>
⁴ Intergovernmental Panel on Climate Change, IPCC Second Assessment: Climate Change 1995, Available at [http://www.ipcc.ch/pub/sa\(E\).pdf](http://www.ipcc.ch/pub/sa(E).pdf) [hereinafter IPCC Second Assessment Report]; see also Clare Breidenich et al., "Current Developments, The Kyoto Protocol to the United Nations Framework Convention on Climate Change." 92 *American Journal of International Law* (1998) p.315, 316

anthropogenic interference with the climate system". Given the vagueness of the obligations in the UNFCCC itself, it was only a matter of time that more concrete obligations and a more precise time-frame for the reduction of GHG emissions would have to be promulgated. This was the driving force behind the Kyoto Protocol⁵, named after the third climate change convention at Kyoto in Japan. It was the first agreement to impose binding restrictions on GHG emissions.⁶ It has been ratified by 163 nations but only 39 of the most developed countries are currently obliged to cut their emissions by 2012. The Protocol requires that developed countries cut their carbon dioxide and other greenhouse gas emissions by an average of 5.2% from their 1990 levels in the five year period between 2008 and 2012⁷. The United States would be required to cut its greenhouse gas emissions by 7% below 1990 levels. By the year 2012, Japan would be required to cut emission 6% below 1990 levels and the 15 nations of the E.U. are required to cut emissions by 8%. Thus, the Kyoto approach is to saddle countries with mandatory emission targets, which will force them to apportion these in turn among their major polluters. These industries, however, have the choice of paying a penalty if they miss their targets, or buying the latest technology even if it is something that only adds to their costs⁸.

The Kyoto protocol regulates substances inter alia Hydro flouro carbons (HFCs), the "substitutes" for Chloroflouro carbons (CFCs), Perflourocarbons (PFCs), Sulphur hexaflouride (SF6), Nitrous Oxide (N2O), Methane (CH4) and Carbon dioxide (CO2).

The Kyoto Protocol was open for signature from 16th March 1998 to 15th March 1999 at United Nations Headquarters, New York. By that date the Protocol had received 84 signatures. Those Parties which have not signed the Kyoto Protocol may accede to it at any time. As of 11th May 2007, 172 countries and one regional economic integration organization (the European Economic Community) have deposited

⁵ Lin, Jolene. Singapore Year Book of International Law (2005) Book Review, "Legal Aspects of Implementing the Kyoto Protocol Mechanisms: Making Kyoto Work." Edited by David Freestone & Charlotte Streck, Oxford University Press, 2005

⁶ The conference in Kyoto was held in December, 1997. See "Senate Legislation Would Block Funds To Implement Kyoto Accord." *Utility Environment Report* 8 (McGraw-Hill) (May 8, 1998). The Kyoto protocol regulates substances inter alia Hydro flouro carbons (HFCs), the "substitutes" for Cloro flouro carbons (CFCs), Perflourocarbons (PFCs), Sulphur hexaflouride (SF6), Nitrous Oxide (N2O), Methane (CH4) and Carbon dioxide (CO2).

⁷ "Japan, EU To Lobby U.S. On Kyoto." *Utility Environment Report* 12 (McGraw-Hill) (June 5, 1998)

⁸ Robert Sheppard. "Reality Check. The difference between Kyoto and the new U.S. led climate pact that Stephen Harper is suddenly keen to join." Available at: <http://www.cbc.ca/news/background/realitycheck/sheppard/20060519.html>. Accessed on June 15, 2007.

instruments of ratifications, accessions, approvals or acceptances. For Kyoto protocol to enter into force, it must be ratified by parties-including Annex I parties-that accounted for at least 55% of the total CO₂ emissions in 1990. The total percentage of Annex I⁹ Parties emissions is 61.6%.¹⁰ The Protocol is subject to ratification, acceptance, approval or accession by Parties to the Convention. It came into force on 16 February 2005 - 90 days after at least 55 Parties to the Convention, incorporating Annex I Parties deposited their instruments of ratification, acceptance, approval or accession. The European Community ("EC") ratified the Kyoto Protocol¹¹ in 2002, committing the Community and its Member States to an aggregate 8 % reduction in greenhouse gases from 1990 levels in the period from 2008 to 2012.¹²

India signed the Climate Change Convention on June 10, 1992, ratified it on November 1, 1993 and it came into force on March 21, 1994.¹³ Under the UNFCCC, developing countries such as India does not have binding GHG mitigation commitments in recognition of their small contribution to the greenhouse problem as well as low financial and technical capacities¹⁴. The Kyoto Protocol was ratified by India on August 26th, 2002 and, with its ratification by Russia, the Protocol came into force on February 16th, 2005.¹⁵

Developing countries were not held to the Kyoto Protocol on the basis that it is industrialised countries that produce most of the emissions and more urgently need to take corrective action. The United States alone is responsible for around 25 % of all global emissions. Developing countries were asked to do their bit, but were not bound to take action, under the principle of "shared but differentiated responsibility".¹⁶ United States is not a signatory to the Kyoto Protocol. President Bush withdrew the U.S. signature from the protocol in 2001, a move seen as the leading obstacle in global efforts to cut emissions and control climate change. The U.S. asserts that developing countries like

⁹ Parties include the industrialized countries that were members of the OECD (Organisation for Economic Co-operation and Development) in 1992, plus countries with economies in transition (the EIT Parties), including Australia, Canada, France, Germany, the European Community, Italy, Japan, Russian Federation and the Baltic States, as well as several Central and Eastern European States. For detailed list visit http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php

¹⁰ http://unfccc.int/kyoto_protocol/background/status_of_ratification/items/2613.php

¹¹ Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, FCCC/CP/1997/L.7/Add.1, 37 I.L.M. 22

¹² Council Directive 2003/87/EC, 2003 O.J. (L 275/32) (EC) P4

¹³ <http://unfccc.int/2627>

¹⁴ <http://envfor.nic.in>

¹⁵ *Russia Backs Kyoto Climate Treaty* Available at <http://news.bbc.co.uk/2/hi/europe/3702640.stm> Accessed on 15th June, 2008

¹⁶ Sanjay Suri, "G8 Summit: Developing Countries Stand Firm by Kyoto Protocol." At <http://ipsnews.net/news.asp?idnews=29409> Accessed on June 12, 2007

India, China, Brazil, etc should take firm measures to reduce emissions. The U.S. Senate passed a resolution just prior to the Kyoto negotiations to accept no agreement limiting U.S. carbon emissions unless developing countries also agreed to binding reduction obligations.¹⁷ Thus, there is a continuing tussle between developed states on one side, led by the U.S and Canada and developing countries on the other, led by India, China, Brazil and Mexico, etc. The latter group was recently joined by Australia.¹⁸

Australia has ratified the protocol. Please mention it.

1.1 Clean Development Mechanism, Joint Implementation and the Emission Trading Scheme.

Article 12 of the Kyoto Protocol provides for Annex I Parties to implement project activities that reduce emissions in non-Annex I Countries, in return for certified emission reductions (CERs). This means that Annex I parties of the Protocol should develop projects in non-Annex I party countries to promote sustainable development by reducing environmental pollution. The reduction caused in pollution can be used by Annex I parties to meet any additional pollution generation needs as they will be provided with extra credits for the environment friendly work done by them. Examples of projects that an Annex I country may undertake in a developing country can be rural electrification by solar energy, harnessing wind energy, etc, although Annex I parties should refrain from developing nuclear power as an alternative source.

The purpose of CDM is to help non-Annex I parties to achieve sustainable development, while assisting Annex I countries in meeting the quantified emissions reductions commitments imposed by the Protocol¹⁹. CDM requires approval by each of the parties to a proposed trade, as well as emissions reductions supplemental to those that would occur otherwise²⁰. The signatories should take steps to make elaborate rules regarding the implementation of the CDM²¹. It dictates that emissions reductions through CDM be certified by "operational entities to be designated by the Conference of the Parties." Definitions and modalities have been developed for including afforestation and

¹⁷ David M. Driesen, "Free Lunch or Cheap Fix?: The Emissions Trading Idea and the Climate Change Convention." 26 *B.C. Environmental Affairs. Law Rev.* 1, (1998):13.

¹⁸ *Australia's Newgovernment Ratifies Kyoto Pact* Available at <http://www.reuters.com/article/idUSSYD3784520071203> Accessed on 1st January, 2008

¹⁹ See, Article 12 of Kyoto Protocol

²⁰ Emily Richman, "Emissions Trading and the Development Critique: Exposing the Threat to Developing Countries." *New York University Journal of International Law and Politics*, 2004

²¹ *Supra* note 36.

reforestation activities (often referred to as "sinks") in the CDM for the first commitment period. However, Annex I Parties are limited in how much they may use CERs (certified emission reductions) from such activities towards their targets (up to 1% of the Party's emissions in its base year, for each of the five years of the commitment period). [An emission reduction credit produced by a C.D.M. project is termed a Certified Emission Reduction (C.E.R.).] The CDM is expected to generate investment in developing countries, especially from the private sector, and promote the transfer of environment friendly technologies in that direction.

Like CDM, Joint Implementation (JI) is also a project-based mechanism of the Kyoto Protocol that may be used by Annex I Parties to fulfil their Kyoto targets. The basic principles of the "Joint Implementation" are defined in Article 6²² of the Kyoto Protocol:

"For the purpose of meeting its commitments..., any Party included in Annex I may transfer to, or acquire from, any other such Party emission reduction units resulting from projects aimed at reducing anthropogenic emissions by sources or enhancing anthropogenic removals by sinks of greenhouse gases in any sector of the economy", provided that certain participation requirements are fulfilled. Thus, under JI, an Annex I Party with a commitment inscribed in Annex B of the Kyoto Protocol may implement an emission-reducing project or a project that enhances removals by sinks in the territory of another Annex I Party of the Kyoto Protocol and count the resulting emission reduction units (ERUs) towards meeting its own Kyoto target. An Annex I Party may also authorize legal entities to participate in JI projects.

Any JI project shall have the approval of the Parties involved and provide a reduction in emissions by sources, or an enhancement of removals by sinks that is additional to any that would otherwise occur. Projects starting as of the year 2000 may be eligible as JI projects if they meet the relevant requirements, but ERUs may only be issued for a crediting period starting after the beginning of the year 2008.

If a host Party meets all the eligibility requirements to transfer and/or acquire ERUs, it may verify reductions in anthropogenic emissions by sources or enhancements of anthropogenic removals by sinks from a JI project as being additional to any that would otherwise occur. Upon such verification, the host Party may issue the appropriate

²² Article 6 of the Kyoto Protocol describes Joint Implementation. For details, see: <http://unfccc.int/resource/docs/convkp/kpeng.pdf>

quantity of ERUs. This "simplified" procedure is commonly referred to as the "Track 1 procedure".

If a host Party does not meet all, but the minimum eligibility requirements, the verification of reductions in emissions by sources or enhancements of removals by sinks as being additional has to occur through the verification procedure under the Joint Implementation Supervisory Committee (JISC). Under this so-called "Track 2 procedure" ERUs may only be transferred if an independent entity accredited by the JISC determines that the relevant requirements are met.

Thus, Article 6 allows the developed nations of Annex I to trade amongst themselves provided they meet certain requirements such as both trading parties must agree to any particular trade that must produce reductions additional to any that would otherwise occur. One important point is that the Annex I parties may not trade if they are not in compliance with other provisions of the Protocol. The parties may obtain credits through trading only if they are also taking steps to reduce emissions domestically.

In its generic usage, Emission Trading includes two types of policy frameworks, the 'Cap and Trade' and 'Offset (or credit) Trading'. These frameworks can exist at international, national and sub national levels. The Kyoto Protocol includes both the frameworks at the international level. Article 17²³ of the Protocol is an example of Cap and Trade established at the country level and the CDM is a credit based programme²⁴.

The aim of Emission Trading is to reduce the emissions of greenhouse gases that cause climate change. The Cap & Trade system is an administrative approach used to control such emission by creating economic incentives for achieving reduction in emission of pollutants. Thus, a cap is set and credits are allotted to the various polluting industries. It is now up to them to either reduce emissions or buy extra credits, in order to achieve their targets. In many Cap and Trade systems, organizations like environmental groups which actually do not pollute, may also buy credits and consequently escalate the price of the remaining credits in the market and create pressure on the industries to

²³ Article 17 of the Kyoto Protocol provides: The conference of the parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emission trading. The parties included in Annex B may participate in emissions trading for the purposes of fulfilling their commitments under Article 3... Full text available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>

²⁴ Murray Ward, Global Climate Change Consultancy, "The role of the carbon market in proposals for addressing climate change post 2012", p.4. Prepared for International Emissions Trading Association

curb emissions. The credits can also be given up by corporations by donating them to a non profit organization or a social group and thus they become eligible for tax benefits.

The concept of carbon trading rewards countries that meet their targets and provides financial incentives to others to do so as quickly as possible. Those who overshoot their emission reduction targets can sell surplus credits in the market. There are various emission trading exchanges that have been set up not just by the Kyoto signatories but also by voluntary groups.

The EU Emissions Trading Scheme (ETS) commenced on 1 January 2005, is the world's first multi-country emissions trading system and it is the largest scheme ever implemented. The EU ETS runs in two phases: 2005-2007 (Phase I) and 2008-2012 (Phase II, coinciding with the first commitment period of the Kyoto Protocol)²⁵. It covers over 11,500 energy-intensive installations across the EU, which represent close to half of Europe's emissions of CO₂. Those who exceed their limit and are unable to buy spare permits are fined 40 euros (Approx £27) for every excess tonne of CO₂ emitted²⁶. These installations include combustion plants, oil refineries, coke ovens, iron and steel plants, and factories making cement, glass, lime, brick, ceramics, pulp and paper.²⁷

In 1997, the State of Illinois in the United States of America, adopted a trading program for volatile organic compounds in most of the Chicago area, known as the Emissions Reduction Market System. Beginning in 2000, over 100 major sources of pollution in 8 Illinois counties began trading pollution credits. Similarly, in 2003, New York State proposed and attained commitments from 9 North-East states to cap and trade carbon dioxide emissions. In 2003, corporations began voluntarily trading greenhouse gas emission allowances on the Chicago Climate Exchange. Members of the Chicago Climate Exchange include the cities of Aspen, Chicago, Oakland, etc. One important factor to be noted here is that while the EU countries are members to Kyoto Protocol, the U.S. is not a signatory and thus the Chicago Climate Exchange and other similar organisations like Montreal Climate Exchange are all voluntary efforts. However, experts believe that in the

²⁵ The European Climate Exchange, For details, see: http://www.europeanclimateexchange.com/default_flash.asp Accessed on June 18, 2007.

²⁶ International Emissions Trading Association, Available at: <http://www.iet.org/iet/www/pages/index.php?IdSiteTree=26> Accessed on June 18, 2007

²⁷ "In Depth, Kyoto and Beyond: Trading Carbon." Available at: <http://www.cbc.ca/news/background/kyoto/arbon-trading.html> Accessed on June 22, 2007.

absence of strict government regulation, these voluntary efforts will never be more than a pilot project²⁸.

Therefore, there is need to develop some speedy regulations and implement them efficiently in order to achieve the goals of the Kyoto Protocol.

1.2 Objective and Scope

The paper aims to enlighten the readers on the nascent but critical issues of emission trading mechanism under the Kyoto Protocol. The criticisms of the Protocol are dealt with at length and suggestions for improvement are presented. This is especially important in the light of the opinions that are abundant regarding the models for emission reduction post Kyoto, from 2012. The paper attempts to throw light on the above issues and finally gives an overview of the international efforts that are being made to bring about a better green house gas management which shall be acceptable to both the developing and the developed world.

2. Criticisms

It has been widely accepted that Emission Trading is a better way to control GHG emissions than command and control or taxation on excessive emissions. This is because the trading approach is far more flexible as it gives the companies the freedom to choose the most economical way out. They may either buy carbon credits or reduce emissions.

The market based system of emission reduction assists the companies in the endeavour to curb GHG emissions. It also helps promote R&D in the area of pollution reduction and development of greener technology because if the prices of carbon credits are too high, the companies would have to either reduce production to cut emissions or develop cleaner technology to meet the protocol's call.

2.1 Potential Benefits and Demerits

As opposed to a traditional command and control regime, there are many benefits that ought to result from the implementation of ETS²⁹. ETS achieves emissions reductions in a relatively cost-effective manner; in particular, the cost of GHG reduction is estimated to be 50 % or less under the EU ETS than under command and control regulation. As compliance costs are so much lower, compliance levels should be higher

²⁸ For more details, see: www.chicagoclimateexchange.com

²⁹ Susan J. Kurkowski, "Distributing The Right To Pollute In The European Union: Efficiency, Equity, And The Environment." *New York University Environmental Law Journal*, 2006

in ETS than in BAT (Best Available Technology)-based regimes, leading to greater environmental benefits. ETS also provide an incentive for technological innovation--the prospect of recouping research and development costs by selling allowances to the market,³⁰ whereas, BAT regulation offers no such incentives. ETSs are far easier to administer, reducing the burden on regulators that are imposed by command and control regulation³¹. Above all, ETS are far easier to monitor and enforce than traditional regulatory schemes³². Thus, there are several benefits and rationales behind the use of ETS as a means of controlling greenhouse gas pollutants responsible for climate change.

Despite the above mentioned advantages that ought to accrue from the trading scheme, there is an array of general criticism of the ETS. The developing nations, along with India, have shown concerns regarding lower emission caps on the various industries like aviation, etc in EU countries. The US, too, is arm-twisting the developing countries to reduce emissions although the former is not a signatory to the Kyoto Protocol.

Ever since the inception of the ETS, it has faced criticism from a number of environment groups and social scientists. The criticism of emissions trading can be broadly divided into two groups: those that oppose putting a price on carbon and those that prefer taxes or a command-and-control approach over emissions trading.³³

Many environment groups claim that carbon trade is contrary to social justice and that it is the largest resource grab in history.³⁴ The arguments raised are that one cannot trade in something unless one owns it³⁵. When governments and companies "trade" in carbon, they establish de facto property rights over the atmosphere; a commonly held global commons. At no point have these atmospheric property rights been discussed or negotiated - their ownership is established by stealth with every carbon trade.³⁶ It seems that the developed world has found yet another resource to trade and sell.

³⁰ For description and critique of the BAT strategy, see Bruce A. Ackerman & Richard B. Stewart, "Reforming Environmental Law", 37 *Stanford Law Review* 1333 at p.1342 (1985)

³¹ *Id.* at 1343

³² *Id.* at 1346

³³ "Emission Trading: Ins and Outs." Danny Ellerman, the Executive Director of the Center for Energy and Environmental Policy Research at the Massachusetts Institute of Technology. Interviewed by Anna Shoup. *Online News Hour*, posted on June 5, 2006 at http://www.pbs.org/newshour/indepth_coverage/science/globalwarming/emissions.html.

³⁴ Rising Tide, a UK based environment group. At risingtide.org.uk

³⁵ *Ibid*

³⁶ *Ibid*

Another criticism is about the implementation of the ETS. Are the countries responsible, selfless enough to fairly distribute credits and impose strict regulations on their industries? The G8 or the most developed eight countries of the world are busy preaching to the developing nations, a lesson in reducing environment pollution while they themselves are not even ready to sign to any fixed reductions, U.S.A not being a signatory to the Kyoto Protocol while India and China are. The reason that the former can give is that it will only sign once India and China are forced to compulsorily reduce emissions. Thus, competition from developing countries is a greater concern than global warming.

There are many problems in the emission trading process itself. First of all, there is no perfect way to distribute credits or say that how much a particular country should pollute. As per earlier suggestions, the countries may be divided into developed and developing and put into three tiers. The first tier countries are developed countries and they "must act now" as they have already been on the forefront of air pollution. The second tier is of those countries which "should act now", meaning that their efforts to reduce greenhouse gas emissions may vary depending on their level of income and responsibility for gas emission as well as their opportunity to cut emissions. The third tier consists of those countries that are poor and undeveloped. They produce very little GHGs and can be excused until their situation changes.³⁷ The problem with the Kyoto Protocol and the carbon emission trading is to get the participating countries agree to terms that are necessary to establish the mechanism³⁸. It is the *second* step and also the second problem to be handled carefully.

The Member States also exercise discretion in determining the quantity of allowances given to each industry and individual installation. There are also distributional concerns which surface due to fears that Member States will use this discretion to favour pet industries. A study of the actual allocations shows that almost all EU Member States set overly high caps, raising serious questions about whether the EU ETS will reap the theoretical benefits of emissions trading schemes³⁹.

³⁷ Eileen Claussen, the Executive Director of the Pew Center on Global Climate Change. "Climate Change: Divide Nations into Three Groups to Assign Fair Emission Cuts." *BNA International Environment Daily News* at D2 (Oct. 30, 1998).

³⁸ Monica S. Mathews, "The Kyoto Protocol to the United Nations Framework Convention on Climate Change: Survey of it's deficiencies and why the United States Should not ratify it." *Dickinson Journal of Environmental Law and Policy*, (spring 2000)

³⁹ Susan J. Kurkowski, "Distributing The Right To Pollute In The European Union: Efficiency, Equity, And The Environment." *New York University Environmental Law Journal* (2006).

Another problem is that of "Hot Air". Russia's economic collapse since 1990 has reduced its emissions by 30%. There was a sharp decline in the operating industries and a consequent reduction in emission of greenhouse gases. Russia is intending to sell this incidental windfall (often called "hot air") as international carbon credits, potentially swamping the market. If countries subsidise their emissions with these Russian credits, the final global emissions will end up being exactly the same as they would have been without a carbon market or a Kyoto protocol. It is an accounting fraud⁴⁰.

The monitoring is also an important issue in implementing ETS successfully. Monitoring GHG emissions is an uphill and expensive task and unless a country is serious about emission reductions, it may not do enough to keep a strict vigil on its domestic emission.

Another criticism is that the emission trading exchanges are running as private institutions and there is no government control and therefore, there are chances of misuse and liberty. Kyoto Protocol has another mechanism of carbon reduction that was through offsetting the carbon emission. This has been extremely popular and at the same time faced severe criticism. This method to remove atmospheric pollution has faced severe criticism⁴¹. A very interesting comparison may be drawn between the Roman Catholic Church's practices, in the Middle Ages, to grant pardon certificates to *sinners*, and today's Carbon Offsetting companies⁴². According to the report, the Church used to grant pardon certificates to sinners for a cost. Thus the sinners, who had the resources, could get rid of their sins by simply buying a certificate from the men of God. A similar scenario has been witnessed in the present world where companies and, often celebrities, employ carbon offsetting companies to maintain forests and other environment friendly activities so as to neutralize the pollution caused by them. This is an erroneous method as simply planting trees has been proved not to mitigate the climate changes caused by carbon emissions. It is an argument that forests do not actually have any overall impact on global temperatures.⁴³ Trees have a very limited life and use when it comes to removing carbon from the atmosphere. The trees are a major source of Methane emission, another GHG and when a tree dies it releases carbon back into the atmosphere and this cycle continues.

⁴⁰ See, supra note 33

⁴¹ The Transnational Institute at Amsterdam 'The Carbon Neutral Myth: Offset Indulgences for your Climate Sins' Feb 2007

⁴² Kevin Smith. Available at: www.thecarbontradewatch.org; www.tni.org.

⁴³ A study published in December 2006 by Carnegie Institute of Washington in Stanford, California.

Then an important point to be considered is that a harmony has to be brought about between the actions of the developed countries and the aspirations of the developing ones. The east is rising and India, China, Mexico, Brazil and South Africa are not too far behind. Therefore, world can no longer ignore the demands and policies of the developing nations.

During the G8 summit 2007, the members got nowhere near agreeing to German Chancellor Angela Merkel's proposal that world emissions be halved by 2050. All that Canada's PM Stephen Harper could say was that "we have produced a very good document after some animated discussion". In these circumstances, the successor agreement to the Kyoto Protocol, due in 2012, does not inspire confidence.⁴⁴ India will refuse to commit to reduce GHG emissions after the Kyoto protocol lapses in 2012. Instead, it may demand clean technology from the developed world. Climate change affects us all; it is only a truly global effort that can save the world⁴⁵.

A war is on between the developing and the developed nations on global warming. China and India claim the right to proceed with industrialization and development, as the developed nations did, unhampered by limits on their greenhouse emissions.⁴⁶ China, India and other developing nations have reasons to support their case. *Firstly*, if we apply the principle "you broke it, you fix it", then the developed nations have to take responsibility for our 'broken atmosphere' which can no longer absorb more greenhouse gases without the world climate changing. *Secondly*, even if we wipe the slate clean and forget about who caused the problem, it remains true that the typical US resident is responsible for about 6 times more greenhouse emissions than the typical Chinese, and as much as 18 times more than the average Indian. *Thirdly*, the richer nations are better able than less well off nations to absorb the cost of fixing the problem without causing serious harm to their populations⁴⁷.

However, the G8⁴⁸ summit remains an exclusive rich boy's club, where leading industrial nations try to solve the world's problems while eyeing their own bottom lines.⁴⁹ India was invited to the 'G8+5' party,

⁴⁴ "Green Defence", *Times Of India*, 12 June 2007.

⁴⁵ Antara Dev Sen, "I Witness: G 8 Expectations." *The Week*, 10 June 2007, p. 54

⁴⁶ Peter Singer, Professor of Bioethics at Princeton University, "Time Starts Now", *Times of India*, 12 June 2007.

⁴⁷ Ibid

⁴⁸ Canada, France, Germany, Italy, Japan, Russia, U.K., U.S.A., E.U.

⁴⁹ Antara Dev Sen, "I Witness: G 8 Expectations." *The Week*, 10 June 2007, p. 54

along with China, Brazil, Mexico and South Africa. We are the 'plus5' like 'extras' in films, necessary but never respected as actors.⁵⁰

Emissions trading may help developing nations by creating an extremely valuable commodity in the right to emit carbon dioxide. However, trading might also impose serious costs on developing nations. It might impose unwanted western values onto developing countries, provide a vehicle through which the developed world may exploit the resources of the developing world, impinge on developing nation's sovereignty, strain the administrative resources of developing states, and allow developed nations to shirk the responsibilities embodied in the developed country leadership principle.⁵¹

The Cap and Trade method has brought about drastic economic and political changes and built up a multi-billion dollar industry. Same is the case with Carbon Offsetting. But what is required is to have an efficient body to control these operations. We need greater public involvement and government regulations so that the private companies do not have a free run.

The point to be emphasized is that curbing GHG emission should be our priority and not the economic benefits that the schemes may accrue. The developing and the developed worlds should put behind all differences and meet as equals to resolve the issue. For a level playing field, the government should set national targets and leave it for corporations to decide their standards of technology. The market might work for many things but we cannot let it take over. We need a combination of government regulations and market mechanism to tackle the serious problem of global warming. We need to evolve financial and technological solutions and resources should be allocated to where they have the major impact. This opinion needs to be discussed in detail.⁵²

There is another opinion, which seems to be both fair and practical. We need to establish the total amount of green house gases that we can allow to be emitted without causing the earth's average temperature to rise more than 2 degrees Celsius (3.6 degrees Fahrenheit), the point beyond which climate change would become extremely dangerous; divide that total by the world's population, thus calculating what each person's share of the total is; allocate to each

⁵⁰ Ibid

⁵¹ Emily Richman, "Emission Trading and Development Critique: Exposing the threat to developing countries." *New York University Journal of International Law and Politics*. (Fall 2003)

⁵² Olla Ullsten, former Prime Minister of Sweden, co-chair of the World Commission of Forests and Sustainable Development and Chairman, World Council for Corporate Governance. Interview by Narayani Ganesh. *Times of India*. June 2007.

country a green house gas emissions quota equal to the country's population, multiplied by the per person share; and finally allow countries that need a higher quota to buy it from those that emit less than quota.⁵³

3. Road Ahead

The Bali Conference on Climate Change, December 2007.

The U.N. led Climate Change Conference in Bali, Indonesia, was marked with charged passionate speeches and heated negotiations but the same old conflict between developing and developed nations on binding emission cuts for developing states as well.

The theme of the conference was basically to decide upon a new multinational pact on climate change, post Kyoto. U.N. Secretary-General Ban Ki-Moon said the deal was the defining moment of his mandate and urged more than 120 environment ministers to agree to work out a new climate treaty by 2009. He described the fight to cut emissions of greenhouse gasses as the "moral challenge of our generation".⁵⁴ There were views that a 25-40% reduction below 1990 levels be imposed by 2020. This was strongly opposed by Canada, Russia, Japan and the United States. Thus, it was a position of stalemate as the conference was clearly divided between the developing and the developed, supporting contrasting views.

An announcement by a senior delegate on the opening day that Australia's new prime minister, Kevin Rudd, was going to hand over documents ratifying the Kyoto Protocol to the United Nations as his first official act drew rounds of applause. Rudd said his own country was already suffering from global warming, and described climate change as one of humanity's great moral and economic challenges.⁵⁵

The Bali conference on climate change made some headway on deforestation and funding to help poor nations adapt to the effects of climate change but it was probably too soon to attempt agreement on binding emissions targets. Deforestation contributes an enormous fraction of the world's greenhouse-gas emissions. Under the Kyoto Protocol there are provisions to provide compensation to reforestation even though those have not been used extensively. There are no provisions to provide compensation for avoiding deforestation. In a large fraction of cases deforestation has economic benefit. It provides pasture

⁵³ Peter Singer, Professor of Bioethics at Princeton University. "Time Starts Now." *Times of India*, 12 June 2007.

⁵⁴ For full report, see: reuters.com/environment. Edited by Alison Williams. Accessed on Dec 15th, 2007.

⁵⁵ id

land or crop land or it provides revenue through timber sales. So, there does need to be some sort of mechanism if there is going to be incentives for key countries like Brazil and Indonesia to avoid deforestation on very large scales. There has been progress announced in Bali with the World Bank setting up a fund that would direct money to avoid deforestation.⁵⁶

Thus, the Bali conference did not actually meet the primary goal that was set by the UN, i.e. to decide upon a future agreement for reduction of green house emissions but it did, at the same time, bring forth some positive solutions and responses from erstwhile "hostile" nations.

Apart from the Bali Conference, other major efforts include the Washington Declaration and the Washington Conference of February and September 2007, the 33rd G8 Summit of June 2007, the UN General Assembly Plenary Debate of September 2007 and the Vienna Conference of August 2007.

4. Conclusion

The Kyoto Protocol leaves many a questions unanswered. The award of "caps", the balance of responsibility on the developing and the developed world and the very process of approving projects under CDM have all been criticised by scientists, lawyers, economists and, above all, the environmentalists. The role of law and lawyers is to take up the case of the plaintiff- the environment. The venture capitalists and industrialists have made their money and the developed world has been an atoned for its carbon sins. The only party who has been left aggrieved is the environment. We, as lawyers, need to understand the basic issues underlying the Kyoto Protocol and work towards a better and more responsible implementation of the spirit of the Protocol, which does not aim at providing the businessmen an opportunity to trade in a new commodity, but only provides them with an incentive to develop and implement green technology and cut down on the carbon emissions.

The phenomenon of carbon credit trade is so vast in all aspects, be it social or economic, that, if applied with responsibility and international co-operation, it may be the biggest revolution mankind has ever seen. This revolution is not against slavery or territorial sovereignty or racial discrimination, but against decimation and extinction of all species on the Earth.

⁵⁶ Micheal A. Levi, CFR Fellow for Science and Technology. Interview by Toni Johnson (Staff writer). Available at <http://www.cfr.org/publication/15063/levi.html>. Accessed on January 20th, 2008.

The concept of Emission Trading is very pragmatic and has the potential of being more successful than any other remedy available for global warming, known till date. The only intricacy is the international consensus and unity. There is an urgent need that every state, irrespective of its economic, social and military stand, should come forward and take concrete steps to control global warming, notwithstanding that a state is developing or developed, democratic or communist, northern or southern, eastern or western, or Asian or American.

Therefore, it is a moment which, if lost, will never return and we may not survive to lament. What is required more than efficient policies and their implementation, is a change in the mind set of the people. If the people decide to cut down energy consumption by doing small things like using public conveyance as much as possible, driving energy efficient cars, and employing use of solar and wind power wherever possible, the coming generations may be able to enjoy their stay on the planet as we and our ancestors did.

Project Tiger- Conservation Effort or Failure? Conflict Resolutions

Arpita Upendra *

Introduction

This section of our paper analyses the issue of the conflict and proposes solutions in the form of joint protected area management and amendments of the relevant statutes in the direction of balance of rights

Balance of Rights

Balance of rights refers to the balance in the vesting, recognition and entitlement of rights to both man and animals such that there is no infringement of either's right due to their mere recognition.(FN) The conflict between man and animals can be resolved if there is a balance in the recognition of both the rights of man and the rights of the tiger. With the balance of rights comes harmony, if the rights of man are recognized without due recognition being given to the rights of the tiger the mere lack of this balance will result in the infringement of the other's right. The cause of this conflict is that the laws recognize the rights of the tiger to their territory to the exclusion of the local human inhabitants. This is bound to create friction and this can be resolved by evolving the laws in the direction of balance, extreme forms of vesting and recognition of rights in various statutes should be harmonized to bring about a state of equality and balance.

Our paper proposes to amend the various statutes in this direction and also change the law to accommodate the establishment of joint protected area management in the tiger reserves which is a management mechanism which seeks to bring about such a balance and promotes co-existence. The contradiction of the Forest legislations to the concept of balance of rights can be clearly observed in the decision delivered by the Supreme Court in *Banwasi Sewa Ashram Vs State of UP*¹ in this case the State Government declared a large part of land upon which the Adivasis depended by declaring the area as a reserve forest under Section 20 of the Indian Forest Act, 1927. This declaration not only denied them the right to access the forest produce but also made them liable to be evicted from the forest area. Such legislations need to be reviewed to be in consonance with the concept of balance of rights and ensure the resolution of the constant conflict.

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¹ AIR 1987 SC 374

Joint Protected Area Management (JPAM)

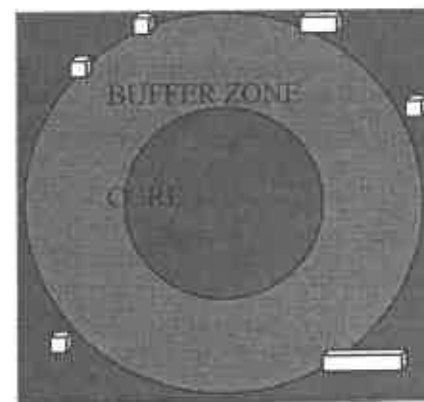
JPAM is a strategy of conservation where the local community shares the responsibility of managing the reserve and all its resources. JPAM works on a system where the local community and forest dwellers enjoy rights and benefits which were denied to them by the declaration of reserves and these rights are vested in exchange for conserving the forest and aiding in the protection of tigers. The rights include the right to access and use the resources but they have to do so sustainably, they are given tenurial ownership of the land and right to continue their livelihood so long as it does not include the right to sell non timber forest produce and adversely affect the biodiversity or ecosystem.(add details about Timber for the sake of clarity) They also obtain benefits in the form of share in minor forest produce, biotic benefits(Explain the term) generated by their conservation efforts and revenue generated from tourism at the reserve².

Elaborate on the issue

Basis upon which JPAM is a solution

Through the establishment of this mechanism it will create harmony between the park officials and the local community hence reducing local hostility as they begin to work as a team. This mechanism encourages the use of resources sustainably and recognizes the local community's role in conservation thus re-establishing the relationship between man and nature which has been broken by the exclusionary form of conservation. It seeks to bring about co-existence therefore finding a middle ground between the rights of humans and the rights of tigers. Thus it has concrete basis upon which a solution can be reached.

Manner of Implementation



² Handbook on Joint Protected Area Management, published by Kalpavriksh 1999 edition

Our paper suggests the implementation of this management mechanism in a form that both the rights of man and animal are given due recognition and respect and there is elimination of conflict, in our suggestion the core area will continue to remain inviolate of human interference in order to preserve the tigers' right to such critical habitat while the buffer zone will be the area where the local dwellers can exercise all the forest rights vested in them, villages located in the core area would be asked to relocate to the buffer zone where they will be given tenurial ownership of cultivable land which is equal in area to that occupied in the core. (Refer to BR Hills sanctuaries for the same model) Benefits that they would obtain due to such relocation are the medical care facilities and schooling facilities to be located at the fringe of the protected area thus they are guaranteed with a better quality of life. They will then be required to partake in the conservation as forest guards or others and use their local knowledge for the benefit of the national park.

(EXPLAIN the purpose of this relocation in more specific terms)

Suggested Amendments to The Various Relevant Statutes

The amendments are in accordance to various categories which are as follows

1. Recognition of forest dwellers rights
2. Relocation of villages
3. Management and conservation of tiger reserves

Recognition of Forest Dwellers' Rights

The rights to be provided to the forest dwellers under the model of JPAM are the rights to access and use of resources sustainably, right to tenurial ownership over forest land which will be free from restrictions placed by the Forest Conservation Act, 1980, right to practice livelihood so long as the biodiversity is not damaged, right to generate revenue through the sale of minor forest produce and the rights to procure the benefits from their conservation efforts. However, not all these rights have been provided for in The Scheduled Tribes And Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (herein after referred to as Forest Dwellers Act, 2006)-a statute that seeks to give much needed recognition to the rights of forest dwellers.

The rights that are required to be included are-

1. Right to access, use and preserve all resources of the forest subject to the regulation of such use by the Tiger Management Committee

(TMC) which is a body that our paper proposes to establish in each reserve and will be elaborated below.

2. Right to biotic benefits derived from their conservation efforts.
3. Right to share in eco-development and revenue generated from tourism.

The forest rights provided in the Forest Dwellers Act, 2006 can be exercised by the forest dwellers in all forest land, that is these rights can be exercised in the core area as well. (FN) The statute fails to make a separation between the core area and the buffer zone. (FN) The core area has been defined in The Wild Life Amendment Act (FN) and The Forest Dwellers Act, 2006 (FN) as an area which is established case by case on the basis of scientific and objective criteria. That such areas are required to be inviolate of human interference and recognition of rights in the core area tilts the balance more towards the rights of man as forest dwellers can reside in the critical wildlife habitat, a balance can be brought about by restricting the exercise of these rights to the buffer zone alone this would require relocation of villages from the core area to the buffer zone. (Break the sentence for clarity and give punctuation marks at appropriate places.)

The rights are vested upon the forest dwellers based on the claims being made by them to the required authority. There are three different authorities established by three different acts namely,

- A. The collector under The Wild Life Protection Act, 1972
- B. Forest settlement officer under the Indian Forest Act, 1927 and
- C. The gram sabha under the Forest Dwellers Act, 2006

(Specify the sections in FN)

There needs to be one authority vested with the power of determining the nature and extent of the right and whether or not the claim would be admitted. This would ensure uniformity in decision making and will not result in multiplicity of claims being made to various authorities. The TMC should be the said authority that will be vested with the powers to recognize and vest the rights of the forest dwellers.

The law is ambiguous upon the basis on which the claims are to be admitted and does not prescribe any concrete means to establish whether the claim is to be admitted or not and this leaves scope to the said authority to be reckless in determining which are the rights that are to be admitted or denied.

The claims that need to be incorporated are-

1. Admission on the basis of recognition of customary and traditional rights.
2. Admission on the basis of resource use i.e. if there are new settlers and their claims to the rights cannot be admitted on the basis of customary rights it can still be admitted because the resources are required to ensure their livelihood and survival.

The three acts provide time limitations within which the claims are to be made to the authorities. Both The Wild Life Protection Act, 1972 and Indian Forest Act, 1927 place a ban on the accrual of rights and thus no right can be claimed after the issue of the notification declaring the area either a reserved forest or a sanctuary. While The Forest Dwellers Act, 2006 provides for claims of lands occupied before the 13th day of December 2005 there needs to be uniformity between the statutes and one particular time limitation is to be put forth and a special exception to such limitation should be given in case of claims made by new settlers who have been forced to relocate due to developmental reasons or otherwise.

The rights to access the resources are still regulated by section 29 of the wild life protection act where the resources can be used and tampered with only for the benefit of wildlife it would have to be amended to accommodate JPAM such that resources can be utilized but they have to do so in a sustainable way. Section 24(2) (c) vests the chief wild life warden with the power to allow the continuation of any customary right however this section is to be abolished and all powers in this regard are to be vested with the tiger management committee in each reserve. Once the claims are admitted the exercise of the rights are to be regulated by the tiger management committee with special emphasis on the use of resources sustainably.

Section 3 (2) of the forest dwellers act 2006 provides for the use of forest land for the establishment of schools, dispensaries and other facilities required by the local inhabitants to the exception of any restrictions placed by the forest conservation act of 1980 however to fit the JPAM model put forth in this paper such activity should be restricted only to the fringes of the protected area i.e. the diversion of only forest land located in the fringes of the protected area for this purpose.

The duties prescribed in the forest dwellers act 2006 are insufficient to ensure careful exercise of the rights vested with the forest dwellers and to enable the establishment of JPAM in each tiger reserve thus the following duties are required to be included

1. Duty to actively partake in the conservation of all resources and biodiversity
2. Duty to ensure that growth in population is correlated with sustainable use of resources
3. Duty to check the decisions taken by the management committee in the exercise of its powers
4. Duty to use the resources in a sustainable manner

provision should be made in the forest dwellers act for revocation of rights recognized if they fail to exercise them in a manner which does not adversely affect the environment thus if the resources are not used sustainably the right to use the resources will be revoked this allows for the establishment of a mechanism to check the exercise of the rights and does not leave it unregulated. Such revocation shall not be indefinite but time bound such that the forest dwellers will not be denied their right completely. The forest dwellers act should further go ahead to define what would amount to sustainable use of resources this would provide adequate guidelines to both the forest dwellers with regard to how resources are to be used and to the regulatory body with regard to what would amount to unsustainable use of resources.

The claims against the forest dwellers under the forest conservation act 1980 for the use of forest land for non forest purposes should be dropped due to the recognition of their rights and an exception should be created stating land used by forest dwellers for livelihood and residential reasons should not amount to non forest purpose this would ensure that no further claims arise.

By such recognition and regulation of rights of man it automatically results in the rights of the tiger being upheld, firstly the tigers right to reside in an area inviolate of human interference is provided for, secondly to have its environment preserved from adverse affects, thirdly it ensures conservation efforts by the forest dwellers for the benefit of the tiger and to increase its viable population. thus the above amendments and suggestions should be amended to bring about a state of peace between man and tiger residing in the tiger reserve through co existence and adjustment of rights.

Relocation of Villages

Relocation of villages is an issue which the law has dealt with differently in different acts and this can often lead to confusion in the implementation. The Indian forest act, 1927 puts forth the fact that on the creation of reserve forests local inhabitants whose claims regarding their rights have not been accepted are required to relocate from the reserve while

the wild life protection amendment act 2006 and the forest dwellers act 2006 provide for resettlement from the core area only if the process of acquisition of rights is complete or if their presence is sufficient to cause irreversible damage but to determine if the damage is irreversible can prove to be very difficult further it states that resettlement from the core area should take place only if strategies of co existence are not available, however to implement JPAM in the manner suggested relocation from the core area to the buffer zone is a requirement.

Relocation is to be done in a phased manner and our paper proceeds to define a procedure that needs to be incorporated in the relevant statutes such that the rights of the forest dwellers are not violated. A notice of the relocation to be carried out should be given in the local vernacular language to the gram sabha and the villages located in the core area. A duration of one month from the date of publication of the notice is provided to the local dwellers to claim their rights over the land occupied in the core area to the tiger management committee in each of the tiger reserves. The tiger management committee will then determine which of the claims are to be admitted and the extent of the area of land over which the claim is accepted. Once this has been done land equivalent to that occupied the core area would be given in the buffer zone keeping in mind the land ceiling of 4 hectares. Once the claims have been settled the tiger management committee will be vested with the responsibility to device a plan for an alternate form of livelihood if the existing form of livelihood cannot be practiced in the buffer zone or if the manner of earning livelihood is detrimental to the environment in any manner, the plan would also have to include an alternate means to obtain the resources to be used by the local dwellers where such resources are not available in the buffer zone. Relocation will then be undertaken such that there will be no right denied to the local dwellers. To further ensure that the rights of the forest dwellers are not violated due to such relocation the forest dwellers act, 2006 should contain a section which provides for enforceable rights upon relocation, the rights that should accrue on relocation and that which have to be given recognition are

1. Right to procure land with tenurial ownership equivalent to that occupied in the core area subject to the land ceiling placed
2. Right to access the resources in the buffer zone and the right to alternate source for resources if not available in the buffer zone
3. Right to an alternate means of livelihood if relocation results in loss of the existing form of livelihood
4. Right to procure notice of relocation in the local vernacular language

5. Right to avail of the facilities to be provided in the fringes of the protected area

Similar duties as specified for the enjoyment of the forest rights in the buffer will be applicable to the local dwellers relocated.

Relocation of villages is a sensitive issue as it requires local dwellers residing in the core area for a long time to move into a new area which entails hindrances in the form of lack of availability of resources, change in the means of achieving livelihood however if local dwellers continue to reside in the core area the human biotic pressure cannot be sustained by the ecosystem in the critical wild life habitat the procedure suggested in our paper tries to bring about a mechanism that can best ensure that human rights are upheld and the critical wild life habitat is inviolate of human interference.

Management and Conservation

The current management of tiger reserves is done in accordance to the wild life protection amendment act 2006 it prescribes the establishment of a national tiger conservation authority and a steering committee at the state level to supervise the management of the various tiger reserves. The management of the tiger reserves is centralized in order to implement JPAM there needs to be decentralization of the powers vested in the authorities mentioned above. The primary change in the management mechanism will have to occur in the reserves presently the management is being carried out by the wild life wing of the forest department with the chief wild life warden in each reserve as the head. There requires to be an amendment in this regard and our paper proposes the establishment of a tiger management committee (TMC) in each reserve which will consist of local dwellers thus it provides them a forum to actively partake in the conservation. The TMC will be composed of members of the wild life wing of the forest department incharge of management of the reserves and select members of the gram sabha to represent the local dwellers in the decision making process with regard to management of the reserve , representatives of the NGO's operating in that reserve, wild life experts to be recruited from the Wild life Institute of India, persons with special expertise in the area of relocation of villages and persons having special knowledge in resource management and sustainable use of resources. The composition has again been decided based on the aim to maintain a balance of rights the number of representatives of local dwellers and that of wild life will be equal. The establishment of such a committee will ensure that the local community is involved in the conservation efforts directly as the TMC will be vested with the powers that will enable them to be proactive. The local community will further participate in the conservation as there will be reservation created for the employment of local dwellers as

forest guards, game guards etc and it will be the duty of the TMC to ensure that such reservation is implemented. The powers vested in the TMC will be a consolidation of the powers of chief wild life warden, forest settlement officer and the gram sabha this though may result in concentration of power in the hands of the committee it will be checked by the steering committee at the state level. The powers and functions of the TMC will be as follows

1. power to create a management plan for the reserve
2. power to determine the nature and extent of the forest rights of the local dwellers
3. power to monitor the use of resources and ensure that they are sustainably done
4. power to revoke the right in case of violation of the duties however revocation is to be carried out after consultation with the national tiger conservation authority
5. the wild life amendment act of 2006 provides for the creation of a tiger conservation plan by the state government however this should be done after taking into consideration the suggestions being given by the TMC.
6. power to administer relocation of villages from the core area to the buffer zone in accordance to the procedure previously described
7. power to device anti poaching plans in coordination with the wild life crime bureau
8. power to record local knowledge in the interest of creating a database which will benefit the national park
9. power to put forth the alternate package for the local dwellers in case of relocation
10. power to carry out research and analysis to better achieve the objectives of project tiger

The TMC would be required to submit an annual report to the steering committee giving details of the activities carried out during the year and how the money allocated has been used. This will create a means of reviewing the progress of each reserve and also act as a guide to the TMC as to what is to be done the following year to improve the management efforts. The TMC should be vested with the responsibility to spread awareness of concepts like biodiversity and sustainability so that it will ensure better implementation of joint protected area management. The salaries will be provided by the grants received by the state government and the tiger conservation fund created. The

payment and tenure of each member will be in the manner prescribed by the state. Refresher courses will be incorporated in the wild life protection act as a compulsion so as to ensure that the management officials are well versed and up to date with the various new techniques of conservation.

Thus such a mechanism for management will ensure the local dwellers an opportunity to partake in the conservation and assist in the decision making.

Conclusion

With the implementation of the proposed amendments and the establishment of the Tiger Management Committee it would ensure that there will be no multiplicity of authorities and a harmonious legislative coexistence of various environmental Acts and notifications. The current situation is one of conflicting rights and authorities through the amendments suggested this paper seeks to provide a uniform and balanced approach which will result in the resolution of the conflict of rights between the Rights of man and the Rights of the animals in this case the tigers.

"Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008: A Critique"

Anandita Bagchi*

*"The most alarming of all man's assaults upon the environment is the contamination of air, earth, rivers and sea with dangerous and even lethal materials. This pollution for the most part is irrecoverable; the chain of evil it initiates not only in the world but in living tissues is for the most part irreversible. In this now universal contamination of the environment, chemicals are the sinister and little-recognised partners of radiation in changing the very nature of the world-the very nature of its life."*¹

- Rachel Carson

It was around the 1980's when the Indian Judicial System underwent a sea change whereby it discarded its moribund approach and instead charted new horizons of social justice. This was the era of the rise in the judicial system of what would soon become the tool to usher in change, for many of the socially sensitized and socially conscious. It was the rise of Public Interest Litigation. The Supreme Court in the case of M.C. Mehta v. Union of India (Bhopal Gas Disaster case), laid down the rule of absolute liability overruling the exceptions to the rule of strict liability which had been pronounced in the celebrated case of Rylands v. Fletcher.

Part A: Introduction

Handling of hazardous wastes: the genesis of the responsibility

In the wake of Bhopal Gas tragedy, the Government of India enacted the Environment (Protection) Act, 1986 under article 253 of the Constitution of India. The purpose of the Act is to act as an "umbrella" legislation designed to provide a frame work for Central government co-ordination of the activities of various Central and State authorities established under previous laws, such as the Water (Prevention and Control of Pollution) Act 1974 & the Air (Prevention and Control of Pollution) Act 1981. The potential scope of the Act is broad, with "environment" defined to include water, air and land and the inter-relationships which exist among

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¹ Rachel Carson; *Silent Spring*; Penguin Books, Great Britain; 1963; At p. 23.

water, air and land, and human beings and other living creatures, plants, micro-organisms and property.

The origins of the responsible handling of hazardous wastes by any person dealing in them, lies undoubtedly in the measures which the Central Government is empowered to take under the Environment Protection Act and which includes laying down of procedures and safeguards for the handling of hazardous substances. It has been amply stated in the Environment Protection Act, which was brought into effect by our Legislature in the year 1986, that *no person shall handle or cause to be handled any hazardous substance except in accordance with such procedure and after complying with such safeguards as may be prescribed.* The interpretation that necessarily follows from this provision is that neither should any person handle any hazardous substance in a manner which is not in accordance with the procedures and safeguards nor should he in any way be related or be the cause of such illegal handling.

Commencement of legislative efforts

The adverse impacts caused due to the indiscriminate disposal of Hazardous Wastes come under the category of Environmental Disasters. Hazardous Waste Management is a very important issue and has assumed global significance. The legislative efforts to regulate the management and handling of hazardous wastes began with the Hazardous Wastes (Management and Handling) Rules 1989 *vide* notification S.O. 594(E) dated 28th July 1989. These rules were legislated in exercise of the powers conferred by sections 6, 8 and 25 of the Environment Protection Act 1986. The rules were not made applicable to waste water and exhaust gases which had been covered under the provisions of the Water (Prevention and Control of Pollution) Act 1974 and the Air (Prevention and Control of Pollution) Act 1981 and the rules made thereunder; to wastes arising out of the operation from ships beyond five kilometers as covered under the provisions of the Merchant Shipping Act, 1958(44 of 1958) and the rules made thereunder and also to radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962(33 of 1962) and rules made thereunder.² The enactment of this piece of legislation put an undeniable stamp on the fact that hazardous waste management was an integral and extremely sensitive part of effective environment management.

Till the legislation of the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008, the management, handling and disposal of Hazardous Waste was regulated by the Hazardous Wastes

² Section 3 of the Hazardous Wastes (Management and Handling) Rules 1989

(Management and Handling) Rules 1989 which were published through Ministry of Environment and Forests (MoE&F) Notification # S.O. 594(E) dated 28th July 1989. The objective of these rules was to control the generation, collection, treatment, import, storage and disposal of hazardous wastes. With rapid industrialization there emerged new challenges to be faced in the area of Hazardous Waste Management and these Rules were hence amended in the years 2000³ and 2003⁴.

In the exercise of the powers conferred on it under sub-section (1) and clause (v) of sub-section (2) of section 3 of the Environment Protection Act 1986, on 28th September 2007, the MoE&F published the Draft Notification on Hazardous Material (Management, Handling and Transboundary Movement) Rules 2007. These Rules were to supersede the HWM Rules 1989. Finally, through its Notification # S.O. 2265 dated 24th September 2008, the MoE&F issued the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 (HWM Rules 2008).

One of the serious threats to environment protection is posed by the indiscriminate disposal of hazardous wastes. Such wastes may either be indigenously generated or imported. In India, legislative mechanism has been strengthened over time to regulate both these situations. The purpose of this research paper is to critically analyse the latest endeavour of the Government to lay out an adequate and full proof mechanism of the management of Hazardous Wastes in the country. Before beginning the analysis a few basics shall be dealt with in order to provide a sufficient background against which the effectiveness and adequacy of the new Rules may be deliberated upon. The paper would first state the meaning of Hazardous Waste and the adverse effects of its indiscriminate disposal. It would then raise the problem of Hazardous Waste Management in the country. Thereafter, an appraisal of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 shall be put forth.

Part B: A Critical Appraisal of the *Hwm Rules 2008*

Hazardous waste and its effects

The consumption oriented modern societies generate large amount of wastes. For example, in the manufacture of plastics, four units of wastes are generated for every unit of product. To cater to the widening demands of consumers, the industry uses "more than 100,000 organic and inorganic

³ Amendment vide HWM Amendment Rules 2000 (notified on 6th January 2000)

⁴ Amendment vide HWM Amendment Rules 2003 (notified on 29th May 2003). MoE&F had amended the HWM Rules 2003 through its two notifications- (i) HWM Amendment Rules 2004 (notified on 19th July 2004) and (ii) HWM Second Amendment Rules 2004 (notified on 6th August 2004), mainly concerning the clauses relating to recyclers and re-refiners.

chemicals"⁵. Every year 1,000 to 2,000 new ones are added to this. In turn, these chemicals turn out to be the major constituents of waste streams. The wastes have a toxic character due to the presence of these chemicals and hence do not even undergo natural biodegradation. From the initial description of these wastes it is quite clear that their indiscriminate disposal poses a serious threat to human, plant and animal health and to the environment. This is precisely the reason why these wastes are termed as "Hazardous Wastes".

The exact amount of Hazardous Wastes generated in the world today is not known. But the United Nations Environment Programme (UNEP) estimates that globally the generation of Hazardous Wastes amounts to over 400 million tonnes per annum, mostly generated in the industrialised countries.⁶ Recent estimates suggest that India generates 4.4 million tonnes of Hazardous Wastes per annum, which is 1.1% of the global generation. The adverse environmental effects of unsafe disposal of Hazardous Wastes include ground water contamination, water pollution, air pollution and threat to natural resources and bio-diversity. Regarding human health, the epidemiological studies indicate that indiscriminate disposal of Hazardous Wastes can harm, and have harmed, the human beings living nearby. For the affected population cancer, genetic defects, congenital disorders, reproductive abnormalities, alteration of immune system, and disorders of the central nervous system and behaviour are of primary concern.⁷

The problem of hazardous waste in India

The Public Interest Litigation filed by the *Research Foundation for Science, Technology and Natural Resource Policy* against the *Union of India* in September 1995 played an undeniably crucial role in highlighting the problem of Hazardous Waste Management in India. While the case was *sub-judice* the judiciary scrutinised the mismanaged state of affairs pertaining to indigenously generated as well as imported Hazardous Wastes. At the end of two years during which the case proceeded, the Apex Court was left with the impression that all the authorities did not appear to

⁵ Plastics, pesticides, medicines, paints, batteries, oil, gasoline, metals, leather and textiles are some of the consumer products, production/manufacture of which results in generation of hazardous wastes. On becoming obsolete these products in turn generally become Hazardous Wastes. This list has been compiled by the European Environment Agency and is cited in *Our Planet* (The UNEP magazine for environmentally sustainable development), - Special issue on Hazardous Wastes, Vol. 10, no. 4 (1999), p. 20

⁶ Phillippe Roch; "At a glance: waste - Ten years on", *Our Planet* (The UNEP magazine for environmentally sustainable development); vol. 10, no. 2; 1999 - Special issue on Hazardous Waste, p. 3

⁷ C.R. Krishna Murthi; "Health Implications of Hazardous Waste Management"; *Indian Journal of Environment and Health*; vol. 31; 1988; p. 1-10 at p. 9

appreciate the gravity of the situation and there was the need for prompt action to be taken to prevent serious adverse consequences.

An order to constitute an appropriate committee, to arrest the growth of this menace, was passed and pursuant to the directions of the Court the MoE&F constituted the seven-member High Power Committee (HPC)⁸ which was headed by the eminent scientist Prof. M.G.K. Menon. The committee worked untiringly for three years before submitting a comprehensive report to the Apex Court. In the report the HPC expressed its concern over the "systematic failure of the governmental system" to deal with the issues pertaining to Hazardous Waste Management in the country. This governmental system at the Union level included the Ministry of Environment and Forests (MoE&F), Central Pollution Control Board (CPCB), Customs and Port Authorities, and at the State level consisted of Department of Environment and State Pollution Control Boards. The HPC examined a number of issues beginning with the grant of authorisation to Hazardous Waste generating units without proper disposal facilities and found that in many of these activities the required co-ordination between the concerned authorities was absent.

Critical analysis of the hwm rules 2008

At the outset, before beginning a thorough analysis of the HWM Rules 2008, it is pertinent to mention that though the relevant aspects of the export and import of hazardous wastes have always been taken into consideration, the legislature has made a specific mention of "Transboundary Movement" in the name of the Rules itself so as to make it clear that those aspects are specifically regulated and dealt with under these Rules. The Supreme Court has had to, in the recent past, intervene in matters relating to illegal imports of hazardous wastes into the country in order to stop them. Hence, the inclusion of this phrase in the name of the legislation is in the author's opinion an effort to *prima facie* give effect to the orders of the Apex Court.

The HWM Rules have been made to apply to the hazardous wastes that have been specified in the Schedules appendaged to the Rules. The legislature has however impliedly placed lead acid batteries covered under Batteries (Management and Handling) Rules 2001 under the purview of the HWM Rules 2008. Lead Acid batteries were earlier exempted from the application of HWM Rules as last amended in 2003.

⁸ HPC was constituted vide Supreme Court order dated 13th October 1997 by the MoE&F. For the Terms of Reference and names of members see Notification F. No. 11-3/96 HSMD dated 17th November 1997.

Lead acid batteries are a by-product of the automobile industry. Batteries are recycled for lead the world over. In India, lead acid batteries recycling is not an organised industrial process, and is generally carried out as backyard level operations. This recycling results in massive lead pollution and has a huge impact on environment and health. Lead is a highly toxic heavy metal that occurs naturally in the environment and has many industrial uses. However, even small amounts of lead can be hazardous to human health. Short-term exposure to high levels of lead can cause vomiting, diarrhea, convulsions, coma or even death. Even small amounts of lead can be harmful, especially to infants, young children and pregnant women. Recycling of lead acid batteries according to norms is a costlier operation in the developed countries, thus a large number of batteries are dumped and recycled in India.

The Batteries (Management and Handling) Rules 2001 were notified to improve the battery collection and recycling system. However, the implementation of these Rules left a lot to be desired. According to *NEERI's Status Report on Management of Hazardous Waste in India*, while the Battery Rules mandate return of used lead acid batteries, compliance remains unsatisfactory. It would be necessary to look into the causes thereof and devise suitable economic incentives such as advance recycling tax which is suitably structured to provide adequate incentive for the battery users to return used batteries to authorised dealers. Simultaneously, an organised drive would be necessary to break the nexus between scrap dealers, backyard smelters and those engaged in battery re-conditioning.⁹ Having regard to the life threatening character of used lead, it is a wise move by the legislature to widen the horizon of the HWM Rules 2008 and to include lead acid batteries within its orbit.

Categorisation of Hazardous Wastes

Schedules I, II and III to the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 put forth the provisions for classifying or identifying a particular waste as a Hazardous Waste. Wastes which are specified in Column 3 of *Schedule-I*, wastes which have constituents above the concentration limits specified in *Schedule-II* and wastes which have been specified in Part-A and Part-B of *Schedule-III* and which possess any of the hazardous characteristics which have been specified in Part-C.

⁹ Status Report on Management of Hazardous Waste in India compiled by T. Chakravarti, M.P. Patil and Sukumar Devotta available at <http://www.envis.neeri.res.in/management.php>. Site visited on 20.1.2009.

Under the provisions of the HWM Rules 2003, any waste which had been generated by any of the processes mentioned in *Schedule-I* would automatically be categorised as a hazardous waste. This has since been a bone of contention between the regulatory authorities and the industries. The HWM Rules 2008 have however ushered in a more balanced approach wherein a waste would not be categorised as a hazardous waste only for the reason that it is listed under one of the processes mentioned in *Schedule-I*. If an industry of the opinion that though they have a particular process which has been mentioned in *Schedule-I*, but the waste generated does not qualify to be hazardous, then they may prove this by showing that the constituents which have been mentioned in *Schedule-II* are non-existent in the particular waste or that the specified concentrations are not exceeded. The HWM Rules, 2008 also provide for the constitution of a Technical Review Committee for resolving any disputes that arise in this regard. This is a significantly pragmatic approach to constitute an independent body for the resolution of disputes.

With a view to further mitigate confusion as to the classification of a certain waste as a hazardous waste, High volume Low effect Hazardous Wastes have been excluded from the extent of these Rules¹⁰. For the same purpose, additional characteristics of Hazardous Wastes have also been included as Class-E classification in Schedule-II¹¹.

Handling of Hazardous Wastes-Responsibilities, authorisation and storage

Rule 4 of the HWM Rules 2008 sets out the responsibilities of the occupier of a facility for the safe and environmentally sound handling of the Hazardous Waste being generated in his establishment. For this purpose, he may get his hazardous waste treated and disposed off by the operator of a Treatment, Storage and Disposal Facility. The onus of safe handling having been placed on the "occupier" and the deletion of the words "operator of facility" clears the ambiguity as to the application of the said Rule. Now, it is evident from the way the Rule is framed that all the requirements have to be complied with by the occupier of the facility.

The HWM Rules 2008 have also brought in specific authorization requirements of recyclers, re-processors or re-users. This brings those facilities which are involved in these processes to be regulated in some manner, as the authorisation is only to be given by the State Pollution

¹⁰ High volume Low effect Hazardous Wastes such as fly ash, phosphogypsum, red mud, slags from pyrometallurgical operation, mine tailings and ore beneficiation rejects shall be governed by separate guidelines which shall be issued by the Central Pollution Control Board.

¹¹ The new characteristics are flammable, explosive, corrosive, toxic, carcinogenicity, mutagenicity and endocrine disruptivity.

Control Board after the filing of documents as required and only after those documents satisfied the requisite conditions. Earlier there was an impression in the minds of the occupiers of facilities that were recycling, re-using or re-processing their wastes, that any industrial facility, without any need of authorisation, could be used for the afore-said purposes.

Moreover, according to the HWM Rules 2003, the authorisation by the State Pollution Control Board had to be given within 60 days from the receipt of the application complete in all respects. This has been overridden to extend the period to 120 days giving sufficient time to the Board to take a considered decision.

After the responsibilities and the authorisation requirements have been spelt out, it is only logical to next take up the issue of the storage of Hazardous Wastes. The HWM Rules 2008 has in Rule 7 clearly mentioned the storage aspects of hazardous waste management. It has been laid down that the occupiers, re-processors, re-users, recyclers and operators of facilities may store the hazardous wastes for a period of 90 days and shall maintain a record of sale, transfer, storage, recycling and re-processing of such wastes and make these records available for inspection. Situations have also been clearly enumerated where the State Pollution Control Board has the discretion to extend this time limit. With this, industries generating Hazardous Wastes but which did not have any Treatment, Storage and Disposal Facility within the concerned State and were hence forced into harbouring the Hazardous Waste for a period exceeding 90 days, were relieved from the constant threat of non-compliance with the Rules as the State Pollution Control Board could now extend the time for them if it was so satisfied.

SMEs

However, though the notification of these Rules have been a relief for some industries, the Rules still have left lacunas to be overcome. The significance of Small and Medium scale Enterprises in industrial output and Hazardous Waste generation have been completely ignored. It is well recognized that SMEs are major hazardous waste generators. The amount of hazardous waste generated in this country is quite small in comparison to that of the United States of America, where as much as 275 million tones of hazardous waste was generated annually. However, considering the fragile ecosystem that India has¹², even this low quantum of hazardous wastes

¹² The State of India's Environment-Part I; National Overview; The Citizens Fifth Report; Centre for Science & Environment, 1999

(around 4.4 million MTA) can cause considerable damage to natural resources if untreated before releases.¹³

Nearly fifty percent of the total industrial output in India is contributed by the SMEs. They also account for 60 to 65 percent of the total industrial pollution. However, most of these industries generate hazardous wastes, which find their way uncontrolled into the environment.¹⁴ According to the *National Productivity Council*, New Delhi (India), there are more than 3 million small and medium scale industries, which are spread throughout the country in the form of clusters/industrial estates. SMEs in India cannot afford to adopt and maintain adequate hazardous waste treatment and disposal technologies. In the absence of common disposal facilities, the waste generators have been accorded temporary permission to store waste in their premises except in areas serviced by common facilities that have come up in the States of Gujarat, Maharashtra and Andhra Pradesh (where storage period should not exceed for more than 90 days unless permitted).

The lack of common facilities has been a major factor in the mushrooming of illegal dump sites since most of the units in the small and medium sector do not have adequate space within their premises to arrange for storage over several years. Therefore it is urgently required to make available common hazardous waste treatment and disposal facility in the areas in all the states where SMEs are operating. There has been considerable delay in notifying sites for hazardous waste disposal. The State Governments should not only expedite notification of sites based on environmental impact assessment but play a catalytic role and persuade the industry associations to set up common facilities. Such common facilities would need to be planned based on reliable estimate of current waste generation and projections for the future. The rampant dumping of hazardous wastes prompted many public interest litigations in High Courts and Supreme Court.

The environmentally sound management of Hazardous Wastes is expensive. The potential substantial profit, which an industry can make on by saving on disposal costs, more often than not, is one of the primary

¹³ Supra note 9. The hazardous waste generated in the country per annum is estimated to be around 4.4 million tones while as per the estimates of Organization for Economic Cooperation and Development (OECD) derived from correlating hazardous waste generation and economic activities, nearly five million tones of hazardous waste are being produced in the country annually. This estimate of around 4.4 million MTA is based on the 18 categories of wastes which appeared in the HWM Rules first published in 1989. Out of this, 38.3% is recyclable, 4.3% is incinerable and the remaining 57.4% is disposable in secured landfills.

¹⁴ Supra note 9.

reasons to drive it to indiscriminately dispose of Hazardous Wastes. Due to this, environmental crimes involving Hazardous Wastes is on the rise.

Public interest litigation¹⁵

Though the HWM Rules came into existence in 1989, they were never implemented in letter and spirit. The non-implementation resulted in indiscriminate & illegal dumping of hazardous waste on land. Due to the alarming situation created by illegal dumping of hazardous waste, its generation and serious and irreversible damage as a result thereof to the environment, flora and fauna, health of animals and human beings, a petitioner approached the Supreme Court under Article 32 complaining of violation of Article 14 and 21 of the Constitution of India. The petitioner had, inter alia, relied upon the Basel Convention which was signed by India on 15th March, 1990 and ratified on 24th June, 1992. The ratification of Basel Convention by India shows the commitment of the country to solve the problem on the principles and basis stated in the said document.

Considering the magnitude of the problem and the extent of hazardous waste generated, the Supreme Court issued notices to all the State Governments, Central Pollution Control Board and State Pollution Control Boards, Pollution Control Committees in the Union Territory, so as to identify the problem, and the extent of such waste, availability of the disposal sites and various other aspects relevant to minimizing the generation, its proper handling and disposal with a view to safeguard the environment. Since the 2000 and 2003 amendments to the earlier HWM Rules had been made during the pendency of the specific petition and the only next initiative of the legislature in the field of Hazardous Waste Management has been the HWM Rules 2008, provisions to effectuate the notices of the Supreme Court to the various authorities should also have been included in these Rules to make them more comprehensive.

The fact that is drawn to the foreground here is that the problem is not so much of an absence of Rules as it is about the obvious lack of implementation. The Supreme Court by its order dated 14-10-2003 in Writ Petition (Civil) No.657/1995 set up a Monitoring Committee to ensure time bound implementation of various directions given in the said order. The Committee visited several states to monitor the status of implementation of the directions. It has been brought to light by the Supreme Court Monitoring Committee (SCMC) that during its interactions with various pollution control officials, it noticed that the State Pollution Control Boards and the Pollution Control Committees of

¹⁵ Research Foundation for Science Technology and National Resource Policy v. Union of India and Anr.

the Union Territories were not constituted in accordance with the provisions mentioned in the Water Act, 1974 and the Air Act, 1981. Where the statutory provisions required that the Chairpersons shall be persons having "special knowledge or practical experience in respect of matters relating to environmental protection or a person having knowledge and experience in administering institutions dealing with the matters aforesaid", the Committee found that in several cases the Chief Secretaries, Environment Secretaries, politicians, literary persons, MLAs and other non-technical persons have been appointed as Chairpersons of State Pollution Control Boards and Pollution Control Committees.

The *M.G.K. Menon Committee* had emphasized that the Chairmen of the Boards and Committees should be persons with a vision and a feeling for the future. They should be able to comprehend and appreciate the complexities of modern science and those of technology and should also have an in-depth understanding of the law. Similar was the situation where the Member Secretaries and Members were appointed. It was established by the SCMC that no efforts were made to appoint persons with adequate scientific, technical or legal background or from the environmental field. Where the authorities have been endowed by the HWM Rules 2008 with the power to grant authorisations, it should have been made a priority to include in such Rules, provisions of recruiting persons with certain amount of technical capabilities particularly those which have to be looked into and judged when granting, refusing or canceling an authorisation.

In spite of the public and judicial consciousness as regards indiscriminate dumping of Hazardous Wastes, authorisations are given for treatment and disposal facilities though it is well documented that there is a severe inadequacy of landfill sites. Infact, there is a recent instance where unplanned dumping of waste has resulted in a serious threat to the groundwater. As authorities hanker for space to be utilised as a landfill site, the existing Bhalswa-Jehangirpuri dumping ground of waste in the national Capital has overflowed its capacity, posing a threat to groundwater resources. The Comptroller Auditor General, in its latest report, has said that the dumping ground in north Delhi posed a major threat to the groundwater resources in the area.

According to the report titled "Management of Waste in India", the total solid waste (TDS) as well as hardness content of groundwater near the site was 800 and 633 per cent respectively, which is more than the permissible limit. Analysis of leachate from Bhalswa landfill site revealed that TDS was higher by 2000 per cent and the hardness content was 533 per cent in excess of the limit, the report says. "The presence of high

chlorides 4100 mg per litres and 10995 mg per litres against the desirable limit of 250 mg per litres also indicates the critical condition of the landfill site located in North Delhi," it adds. Similarly, TDS at Okhla landfill site was also 244 per cent more than the desirable limit.

This shows that the groundwater of landfill sites has been critically contaminated with leachate generated from the site. "Ambient air quality monitoring work for the year 2005 has been conducted which indicates critical levels of air pollution in the area," said the study based on the analysis conducted in 2007. Delhi is at present producing 6,500 tonnes of garbage daily. In the next five years, garbage collection will increase by 1,000 tonnes. The Regional Plan-2021 of the National Capital Region Planning Board (NCRPB) states that the daily generation of solid waste will shoot up to 15,000 metric tonnes by 2021. Presently, Delhi's garbage is being dumped at Ghazipur in East Delhi and Okhla in South Delhi besides Bhalswa landfill site.¹⁶ There is an imminent necessity to establish, by proper rules and regulations secured landfill sites in order to safeguard human, plant and animal health and the environment.

Transboundary Movement of Hazardous Wastes and Illegal Traffic

Added to the escalating indigenous generation of Hazardous Wastes is the continuing problem of incessant imports of Hazardous Wastes into the country supposedly for the purposes of recycling and re-processing. It is indeed very interesting to note, how within a space of a few years the issue of transboundary movements of Hazardous Wastes has assumed global significance. The actual and potential danger such movements entail for human health, environment, natural resource management and sustainable development have made them one of the top most priorities on the international agenda. One of the main reasons of the genesis of transboundary movements of Hazardous Wastes is the cost factor, which very often has the effect of prompting the industrialised countries who are the primary producers of Hazardous Wastes, to export the same to less-industrialised countries. This is done mostly because the cost of treatment and disposal facilities is cheaper in such countries, and sadly there is either non-existent or minimal public resistance to their imports.

A plain reading of the import-export provisions of the HWM Rules 2008 would show that not much change has been made in terms of the provisions generally laying down the basic structure of transboundary movements of Hazardous Waste, in particular the categories of wastes that can be imported or exported. The Rules make the MoE&F the nodal agency for dealing with the transboundary movements of Hazardous

¹⁶ <http://www.tribuneindia.com/2008/20081222/delhi.htm#7> visited on 24.1.2009.

Wastes and also for granting permission for transit of Hazardous Wastes through any part of India. Though the import of Hazardous Waste from any country into India for the purpose of disposal is prohibited, it is allowable for the purpose of recycling, re-use or recovery. The export of Hazardous Wastes from India may be allowed to an actual user of the wastes or operator of a disposal facility with the *Prior Informed Consent* of the importing country to ensure environmentally sound management of Hazardous Waste.

The international convention dealing with transboundary movement of Hazardous Waste is the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal. The key objectives of the Basel Convention are:

- to minimize the generation of hazardous wastes in terms of quantity and hazardousness;
- to dispose of them as close to the source of generation as possible;
- to reduce the transboundary movement of hazardous wastes.”

This treaty was designed to reduce the movement of Hazardous Wastes between nations and specifically prevent the transfer of Hazardous Waste from developed to developing and less-developed countries. India became a signatory to the Basel Convention on 15.3.1990. As has been stated above, the basic objective of the Basel Convention are to control and **reduce** transboundary movements of hazardous and other wastes subject to the proceedings of the convention in terms of prevention and minimization of their generation, environmentally sound management of such wastes and active promotion of the transfer and use of cleaner technologies. The Ranking of options in Hazardous Waste Management follows the widely accepted hierarchical preference for waste management in general. Accordingly, waste avoidance and minimisation ranks the highest followed by recycling, treatment and safe disposal of waste generated.¹⁷ Though India has agreed to undertake the objects of the convention, yet it is still to implement them in full. Taking the HWM Rules 2008 into consideration, there is no provision throughout the Rules which encourages the minimization and the prevention of the generation of Hazardous Wastes in terms of the quantity and its hazardousness. Waste prevention means measures aiming at the reduction of the quantity and harmfulness for the environment of diverse waste streams. Prevention is

¹⁷ National Policy on Hazardous Waste available at http://www.ciiwasteexchange.org/National_Policy%20on%20Hazardous%20waste.pdf. Site visited on 22.1.2009.

the most desirable waste management option as it eliminates the need for handling, transporting, recycling or disposal of waste. It provides the highest level of environmental protection by optimising the use of resources and by removing a potential source of pollution.

What has been tried to be effectively dealt with is the authorisation procedure for the treatment and disposal facilities. But until the root cause of the problem is struck at, the chances that the menace will end is very bleak. Moreover, there has been no effort to reduce the transboundary movement of Hazardous Wastes. An effort to merely regulate the import and export of transboundary waste has been made. Rule 14(2) states that the import or export of hazardous wastes specified in Part-A of *Schedule-III* shall require Prior Informed Consent of the country from where it is imported or exported to, and shall require the license from the Directorate General of Foreign Trade and the prior written permission of the Central Government. However, the import of Hazardous Wastes specified in Part-B of *Schedule-III* shall not require the Prior Informed Consent of the country from where it is being imported. Keeping in view the burgeoning amount of hazardous waste that is generated in the country, India should as a discharge of its obligations in the international arena as well as to the health and safety of the people, should completely ban the imports of hazardous wastes even for the purposes of recycle, re-use and re-process. We first have to remedy the problem at home before we can take on more. The order made by the Supreme Court in the petition filed by the *Research Foundation for Science, Technology and Natural Resource Policy* include directions to the effect that, with effect from the date of making of the order, no authorisation or permission would be given by any authority for the imports which have already been banned by the Central Government or by any order made by any Court or any other authority. With effect from the relevant date no import would be made or permitted by any authority or any person of any hazardous waste which is already banned under the Basel Convention or to be banned hereafter with effect from the date specified therein.

Despite the ban on import of hazardous waste in the country, implementation of the ban on the ground is very negligent and hazardous waste is coming to our shores in a regular phenomenon. Apart from generating their own hazardous wastes, India invites import of such waste in the name of reuse and recycling, though there is lack of environment friendly technology to reuse and recycle hazardous waste. Another problem to be tackled is the illegal import of wastes. Where it had been brought to the notice of the Court that 15 importers, illegally

imported waste oil in 133 containers in the garb of lubricating oil, on direction of the Court, the laboratory tests undertaken have showed the same as hazardous waste oil. The importers were directed to show cause why the consignment in question should not be ordered to be re-exported or destroyed at their cost and why the amount spent on analysis in the laboratory (Rs.6.35 Lacs) be not recovered from them and why they should not be directed to make payment of compensation on the basis of the Polluter Pays Principles and other action taken against them. Looking at the judicial attentiveness to the matter, the legislature should have also, while deliberating upon a completely new set of rules, considered the inclusion of stricter provisions regarding illegal traffic.

Where one of the categories of illegal traffic is, if the import is proved to be a "*deliberate disposal*", effort should have been made to further set out instances which could be classified as "deliberate disposal" for the sake of clarity. Infact it is not completely sufficient to only protect the country from the import of Hazardous Wastes but one should also look at those industries which are likely to generate problematic Hazardous Wastes. In recent years there has been a growing trend wherein potentially hazardous industries from the developed world move to host states in the developing world that offer the lowest levels of environmental regulations and compliance costs and the least liability for international investment. This becomes a very delicate situation for the government to deal with as on one hand they are responsible for the health and safety of their citizens and on the other, over regulation of multinational corporations could drive away investment, reducing the wealth of the nation and a number of available jobs. However, this is another facet which the legislature ought to have dealt with in the Rules relating to Hazardous Waste Management. The Asian region has indeed become the favourite dumping ground for Hazardous Waste exporters. From 1994-1997, industrialised countries have sent totally 3.5 million tonnes of Hazardous Waste or harmful trash. For example, waste export to China has been documented from United States, Japan, South Korea and Taiwan. Another Example is related to India. Cheap labour, poor environmental standards, a sieve-like import regime and a growing market for cheap raw materials are the main driving forces. Ignoring its law courts, till now, India has helped developed countries to beat the International Basel Convention on the ban on dumping of toxic industrial waste in developing countries.

The New Concern: E-Waste Management

The HWM Rules 2008 seem to have completely omitted to address the growing concern known as *E-Waste Management. Electronic Waste,*

popularly known as *e-waste* encompasses the ever growing range of obsolete electronic devices such as computers, servers, mainframes, monitors, televisions and display devices, telecommunication devices such as cellular phones and pagers, calculators, audio and video devices, printers, scanners, copiers and fax machines besides refrigerators, air conditioners, washing machines and microwave ovens. E-waste also covers recording devices such as DVDs, CDs, floppies, tapes, printing cartridges, military electronic waste, automobile catalytic converters, electronic components, such as chips, processors, mother boards, printed circuit boards, industrial electronics such as sensors, alarms, sirens, security devices, automobile electronic devices.¹⁸ E-waste is one of the rapidly growing environmental problems of the world. In India, Electronic Waste Management assumes greater significance not only due to the generation of our own waste but also dumping of e-waste, particularly computer waste, from developed countries.

A successful attempt at management of e-wastes is E-Parisaraa, an eco-friendly recycling unit on the outskirts of Bangalore which is located in Dobaspet industrial area, about 45 km north of Bangalore, and makes full use of e-waste. The plant which is India's first scientific e-waste recycling unit will reduce pollution, landfill waste and recover valuable metals, plastics & glass from waste in an eco-friendly manner.

Though Part-A to *Schedule-III* of the HWM Rules 2008 which provides the list of Hazardous Wastes to be applicable for import with Prior Informed Consent, includes *waste electrical or electronic assembles or scrap*, e-waste is considered as completely neglected by the HWM Rules 2008 as they have been very cursorily dealt with. The electronic industry is the world's largest and fastest growing manufacturing industry. Recent policy changes in India have led to an additional tremendous influx of leading multi-national companies to set up electronic manufacturing facilities and research and development centres for hardware and software in the sector. The domestic market is categorised by the strong economic growth and rapidly changing consumption patterns. This growth has significant socio-economic impact. The increase in consumption rates of electrical and electronic products and higher obsolescence rates are leading to growing generation of e-waste (waste electronic and electrical equipment or WEEE). In India, the recycling of e-waste is almost entirely left to the informal sector which does not have adequate means to handle either the increasing quantities or certain processes, leading to intolerable risk for human health and the environment.

¹⁸ http://www.iimm.org/knowledge_bank/9_e-waste-management.htm visited on 24.1.2009

We need a regulatory framework like the European directive on Waste Electrical and Electronic Equipment (WEEE). ASSOCHAM, in recognition of this urgent necessity of proper management of E-waste in the country had therefore recommended the Government to promulgate an all-embracing national E-waste Management law, and an all-encompassing policy thereunder, for substituting the existing Hazardous Waste (Management and Handling) Rules 2003, as the latter were not comprehensive enough to attain the aforesaid objectives. However, the HWM Rules 2003 have been substituted but without any adequate mention of E-Waste Management. Keeping in view the growing urgency in this new field of waste management, it is advisable that the legislature bring about separate rules and regulations to effectively curb it.

Though the legislature opted to perfunctorily deal with the issue of *e-waste management*, the Maharashtra Pollution Control Board (MPCB) is preparing fresh guidelines for e-waste management for the two cities that generate maximum e-waste in the State, i.e. Pune and Mumbai. Environment secretary Valsa Nair, who is also the chairperson of the MPCB, has already issued a notice to this effect. Realising the importance of the management of such wastes, she also said that "It is high time that e-waste management is taken up on a priority basis. Though technical guidelines have been given by the Central Pollution Control Board, there is none on the e-waste management and recycling process. The guidelines will help better management." Member secretary MPCB, Sanjay Khandare said the guidelines will focus on collection, dismantling, physical segregation and recovery process. At present, there is only one small facility for this process functioning at Andheri. With the present system involving no proper direction in dismantling and recovery, Mr. Khandare mentioned that the guidelines will ensure recovery of precious metals as well as prevent hazardous impact - both on environment and people.¹⁹ This is a very pro-active step on the part of the state authority and should be emulated by other states.

Occupational Hazards in Handling Hazardous Wastes

There are various occupational hazards associated with handling of Hazardous Wastes. These may be categorised as:

A. Infections

- Skin and blood infections resulting from direct contact with waste, and from infected wounds.

¹⁹ Fresh Rules for Managing Electronic Waste; Nisha Nambiar available at <http://www.expressindia.com/latest-news/Fresh-rules-for-managing-electronic-waste/397470/1/>. Site visited on 25.1.2009

- Eye and respiratory infections resulting from exposure to infected dust, especially during landfill operations.
- Different diseases that results from the bites of animals feeding on the waste.
- Intestinal infections that are transmitted by flies feeding on the waste.

B. Chronic diseases

Incineration operators are at risk of chronic respiratory diseases, including cancers resulting from exposure to dust and hazardous compounds.

C. Accidents

- Infecting wounds resulting from contact with sharp objects.
- Poisoning and chemical burns resulting from contact with small amounts of hazardous chemical waste mixed with general waste.
- Burns and other injuries resulting from occupational accidents at waste disposal sites or from methane gas explosion at landfill sites.
- Bone and muscle disorders resulting from the handling of heavy containers.

In regard to this, the Supreme Court had considered the suggestion of the HPC under term of reference no. 4 relating to impact of hazardous waste on worker's health and directed the Ministry of Labour and Ministry of Industry to constitute a special committee to examine the matter and enumerate the medical benefits which may be provided to the workers having regard to the occupational hazard as also keeping in view the question of health of the workers and the compensation which may have to be paid to them. It is quite evident that the issue of occupational hazards is an important consideration and yet occupational health safety measures in the units handling hazardous waste have not been dealt with by the HWM Rules 2008.

Part C: Conclusion

The need of the hour is a strict and effective monitoring and implementation strategy. The problem, at present, is that the enforcement mechanism lacks teeth and has failed in curbing the improper handling of Hazardous Waste. There should be environmental

friendly Hazardous Waste Management in the country and it needs participation of all stakeholders that includes government agencies, private sectors and civil society. Non Governmental Organisations as a part of civil society along with media, should play their role as investigators and publicisers, as well as make the public aware of the issues with crucial information sharing and clearing role and try to convince the government with policy advocacy. Everyone must act responsibly to prevent further pollution of the environment. The HWM Rules should also have included provisions for public participation in hazardous waste management as that would have given a more comprehensive and realistic approach to the problem where *handling* is concerned.

Reviewing the present situation with reference to Hazardous Waste Management in the country, it is felt that stringent implementation of the existing rules, which will include proper collection mechanism, sound recycling technologies, adequate and scientifically designed disposal sites is essential. Sustainable Development concerns enabling recovery and reuse of useful material from hazardous waste and thereby reducing the waste for final disposal and it is certainly a welcome thought. But the steps taken to achieve these objectives till present do seem ineffectual. The steps, in fact, seem to be more favourable towards making India a 'Dumping Destination' in the garb of a 'Recycling Destination' because even though the procedure for imports and exports has been strengthened, the imports are still allowed at all.

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"Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008: A Critique"

Chaitra Beeramwar*

I. Introduction

Love of nature is not a 'modern' phenomenon it existed from the beginning of Humanity itself. Man loves nature and in turns nature nourishes him. Man serves society and in turns society protects him. Nature and the human family are thus inter dependent and duty of the man towards nature is inherent. These basic precepts envisage the protection of environment which ultimately results in the preservation of human family.

But for the great environmentalists, humans are of a lesser importance than the abundant and diverse flora and fauna of the planet. Humans are defined as a recent addition to the livestock and are considered to be the wholly disruptive, Influence on a world which was a paradise before their arrival¹

Considering that, economic development, technological and scientific advancement have increased their impact on the environment they have surely added to the environmental degradation and ecological imbalance Though right to Environment is not a fundamental Right under the constitution, the 'Quality of life' under Art 21 inherits quality of environment impliedly, considering the case, *M.C. Mehta v. Union of India*²

II. Meaning of Hazardous Waste and its Management

Hazardous waste is a term applied to those wastes that because of their chemical reactivity, toxicity, explosiveness, corrosiveness, radioactivity or other characteristics. Constitutes a risk to human health or to the environment such wastes may be generated as a by product in the manufacturing processes or may be generated from the various catalysts, which need to be disposed off when spent.³

According to Environment protection Act-1986. Sec.2. (e), Hazardous substance means, any substance or preparation, which by reason of its chemical or physico-chemical properties or handling is liable to cause harm to human being's, other living creatures, micro organism, property or the environment⁴

* University College of Law, Dharwad
1 S.C.Shastri, "Environmental Law," 2nd edt Lucknow Eastern Book Company P-3
2 (2002) 4 SCC, 376
3 <http://www.Google.com>
4 Central Act's And Ruls, Vol.9 Universal Law Publishing Lucknow, P-91

In the same Act sec 2 (d) 'Handling' has been defined as, 'Handling in relation to any substance, means, the manufacture, processing, treatment, package, storage transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of such substance.'⁵

Observing the sec. 2 of the Environment protection Act one could understand, that it lacks in understanding the modern concept of environmental pollution and the factors which leads to the environmental imbalance. The major urban environmental ills like noise, traffic etc and control over harmful substance were consciously absent from the Act. So the Government of India issued the rules under the same Act. Namely The Hazardous Wastes (Management and Handling) Rules in 1989. and amended it in the year 2000 and further in 2003 and 2008.

The amended rules brought the basic modifications with respect to the definition wastes Identified the types of hazardous wastes likely to be generated from different industrial process. Such wastes are deemed as 'hazardous' irrespective of constituents or concentrations. It is said that, they are to be classified hazardous only of they exceed the threshold concentration limits mentioned in the Rules.

III. Position before the Rules 2008

(Before passing of the bill of Hazardous Waste (Management, Handling and transboundary movement) rules 2008).

Since Independence, the industrial policies took place in an economy of India fostered the growth of industries in a fast manner. The rapid industrialization has been generation of large quantity of hazardous wastes. These are making a far reaching impact on the environment.

To address these critical problem, the government issued 'The Hazardous Wastes (Management and Handling) Rules in 1989 under the umbrella of Environment protection Act 1986. These rules classified hazardous wastes into 18 categories in its schedule-1 based on the constituents present in them.

Recently Ministry of Environment and Forest, further amended and issued the draft Hazardous Waste Rules which is now termed as Hazardous Materials (Management, Handling and Transboundaly Movement) Rules 2007 and the draft was opened to comments for three months from the date 28th Sep. 2007.

Considering the objection and suggestions received by the people, to reach the omitted things in the earlier Rules to be done, the Government has

⁵ Ibid, p-91

issued the new Rules, namely Hazardous Waste (Management, Handling and Trans boundary Movement) Rules 2008 dated on 24 the Sep 2008.

IV. Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008

The Loopholes Founded (Drawbacks)

The new rules issued namely Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008, is currently dealing with Hazardous wastes. Which is amended by Ministry of Environment and Forest, Government of India. This rule claims to address sustainable development concerns and also the reuse of bazardous materials, generated from the process, so that reducing the hazardous wastes and designed for final disposal. It is dealt with the environmentally sound management of all hazardous materials.

Though the Rule tried to achieve something different from earlier passed rules, became a subject to the drawbacks.

In draft rule It tries to redefine the 'hazardous wastes' and 'hazardous Materials'. It categorizes recyclable hazardous waste as 'non-waste' instead of giving it a term hazardous material. It leaves scope for different interpretation. That means, it takes out most of the hazardous wastes as 'non-wastes category' and definitely causes to improper handling and also the bad impact on environment.

Disregard to international convention-This ill-defined categorization is a complete violation of United Nations Basel convention on the control of Transboundary movements of hazardous wastes, to which India is a party.

It also gives scope for the import of recyclable hazardous waste to India where we don't have the adequate facilities to handle it or to manage, and makes India a global waste site. Because today India is facing difficulty in managing and handling its own wastes in a proper manner. So this type of shift is not permitable -ch. IV of the Rule.

Disregard to supreme court's Ruling-

Supreme Court of India observed in October 2003, that although the Basel Convention has banned import of 76 items, India banned only 29 under the said rules 1989. and argued for expanding the list of prohibited items for import. But newly issued rules, gave scope for importing of hazardous wastes without specifying it -Rule 16.

Other loopholes in the Rule

1. There are certain characteristics like leachibility, which may make waste as hazardous, is lacked by the definition Rule-3(1).
2. This Rules does not make compulsory permission from Transit countries in case of export and import. Except Shipment This is the violation of the United Nation's Basel convention. Rule-15(4)
3. The explanation about disposal does not covers the disposal in other mediums except land-Rule-3(e)
4. The specific mechanism has not been defined for the most dangerous E-Wastes.
5. It does not deal with the occupational health safety measures in each & every process of the hazardous waste handling unit. It is the violation of Human Rights as well as Labour Laws.
6. Here everything is dealt with after the production of toxics. But nothing dealt with, what precautions or incentives should be taken at the time of production of toxics.
7. If the authority is unable to charge the offender, then who will take action on such authority has not been dealt.

So we can say that, though the Rule has got the new measures to curb the improper handling of hazardous wastes, it may worsen the situation. The new modifications, must bring the strict and effective implementation strategy to reach the goal of clean Indian Environment.

V. Conclusion and Suggestions

Currently It is estimated that, the hazardous wastes generated in India per year is to be around 8 million tones out of which 70% is being generated by five states, namely Gujarat, Maharashtra, Tamil Nadu, Karnataka and Andhra Pradesh. But only 3 Gujarat States, Andra Pradesh & Maharashtra states have developed the systematic treatment, storage, disposal, facility which are essential components of proper hazardous waste management activity for ultimate disposal of hazardous wastes in an environmentally sound manner.

By touching the ground of reality one, can easily understand that though the rules have been issued in 1989, the implementation on the ground has left a lot to be desired There is a lack of strict enforcement mechanism as well as proper infrastructure facility. Which have literally made the problem of hazardous waste management, still worsen Newly emerging wastes and loopholes in current legislation have made it a grave problem.

An illegal import and export of hazardous wastes, improper dumping of wastes in unreasonable sites, and lack of proper treatment and disposal facilities, more than every thing, the lack of awareness among the citizens about hazardous wastes and its handling have made this problem a headache. New suggestions can be given to improve the situation and can try to come out from lack of awareness. Though it simply giving suggestions may not reach everybody, it is the duty of one to make it known, to others about the hazardous materials and the hazardous further.

1. Law relating to hazardous wastes must be consolidated and codified under a single code, which includes all spectrum of it.
2. The multiplicity of authority and ineffective administration can be controlled by establishing a National Committee on hazardous wastes which includes the expert scientists as its members.
3. Legal provisions should involve the local persons and also the Ngo's who can help in taking decisions and emergency preparedness planning.
4. Public Education Programmes to be arranged for giving knowledge about hazardous wastes and toxic substances, in domestic areas and their handling. As well as management. Students should be involved in such programmes. Mass education is also important through, media and adult education.
5. Many of the industries using the sea and ocean as their dumping grounds, without recycling the wastage. This should be banned by appropriate International agreement, covenants, and int. law.
6. Simply enacting the laws will not serve the purpose, the public participation in environmental impact assessment in establishing an Hazardous waste import industry is a must.
7. Establishing of an industry for from highly populated area is much important, so that the location of the people will be far from the waste disposal sites. According to the nature of the substance, due safe disposal should be made.
8. Domestic garbage's which includes. Plastics and other wastages and their handling should be dealt properly. Their collection, storage, treatment and disposal should be included in it.
9. Import and export laws related to hazardous wastes should be implemented properly, so that the import of highly toxic substance will be banned and illegal import will be controlled.

10. Speedy disposal of hazardous waste related cases in all the courts and the victim should get the compensation immediately within definite time, considering the case Bhopal Gas Tragedy.

To conclude, the need of the hour is to strengthen the legislation; proper collection mechanism, sound recycling technologies, adequate, and scientifically designed disposal sites. But the steps taken to achieve these things in the hands of the authority as well as me and you to make India from dumping destination to Recycling destination.

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